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WESLEYVILLE GS 'A' PREOPERATIONAL AQUATIC BIOLOGICAL STUDIES - 1978 VOLUME 1 - TEXT

Report No 82-456-K

J.D. Ellis
Biologist
Biological Research Section
Chemical Research Department

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ABSTRACT

Studies were conducted at the Wesleyville site to accurately define the aquatic environment so that changes resulting from station operation in future postoperational years could be detected, however, the construction of Wesleyville GS was subsequently cancelled. The substrate at the Wesleyville site was quite heterogeneous. Construction activities resulted in differences in particle size distribution and sedimentation rates in nearshore areas. Water and sediment chemical parameters were indicative of relatively good conditions. Phytoplankton and zooplankton were, for the most part, uniformly distributed over the site. Macro-invertebrates were heterogeneously distributed over the site, with the distribution of the dominant taxa being a function of depth, temperature and time. *Ulothrix zonata* and *Cladophora glomerata* dominated the attached algal community. Larval fish were fairly evenly distributed over the site with smelt and alewife peaking in June and August respectively. Alewife dominated the fish catch. Dominant fish species were distributed evenly along the shoreline but fish catches were greatest in the near-shore zone. Low catches of round whitefish were recorded during the spawning period.

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WESLEYVILLE GS 'A'
PREOPERATIONAL AQUATIC
BIOLOGICAL STUDIES - 1978
VOLUME 1 - TEXT

1.0 INTRODUCTION

1.1 Objectives of the Study

This study was designed to describe the aquatic environment of the Wesleyville 'A' GS with sufficient accuracy that any significant change resulting from station operation would be detected in future postoperational surveys.

The 1978 study was intended as the first year of an eight-year programme which was to include three years of preoperational data, two years of commissioning data and three years of postoperational data. This programme was subsequently cancelled after the 1978 survey with the decision to cancel construction of Wesleyville GS.

1.2 Scope of Work

The scope of the work included assessments of the physical, chemical and biological characteristics of the Wesleyville 'A' site and incorporated descriptions of substrate and sediment chemistry as well as temporal and spatial variability in sedimentation, temperature, dissolved oxygen, water transparency and water chemistry.

The biological characteristics monitored included spatial and temporal variability in attached algae, phytoplankton, zooplankton, zoobenthos, ichthyoplankton and adult and juvenile fish. Stomach contents and meristics on adult and juvenile fish were also obtained.

1.3 Study Site Description

The Wesleyville 'A' generating station site is located on the north shore of Lake Ontario approximately 8 kilometres west of the town of Port Hope. Construction of a 4 unit oil-fired generating station with a total power output of 2000 MW began in 1975 with a projected in-service date of 1980. Since construction began, the completion of this station has been deferred indefinitely. The

proposed discharge is located at the junction of transect Q and the shoreline (Figure 1-1) while the proposed intake location is approximately at the 15 m depth on transect R. The intake water requirement for a plant with 4 units at full load is 78 m^3/s. Each pair of units requires 23.7 m^3 of water per second for cooling purposes, 13.9 m^3/s for the tempering pumps and 1.5 m^3/second for service water.

Construction activities in and adjacent to Lake Ontario in 1978 were centred primarily between transects Q and S and included: 1) blasting for the intake trench, 2) installation of derelict lake steamer for a breakwater, 3) groin construction and 4) breaking of dyke for intake line.

Data collected from aquatic biological studies related to a potential additional generating station (Wesleyville 'B') were used to supplement data collected for the Wesleyville 'A' pre-operational study and are included throughout this report.

The Wesleyville 'B' GS study site is west of the 'A' site and includes transects K, L, M and N. The transects and sampling points on the Wesleyville 'A' site are shown in Figure 1-1. Figure 1-2 shows the various types of sampling conducted and their locations.

2.0 METHODS

2.1 Physical Characteristics of the Site

2.1.1 Substrate

The substrate was mapped by SCUBA from the shoreline to the 12 m depth contour along the six transects at the Wesleyville 'A' site (O, P, Q, R, S and U) in the vicinity of the intake and discharge and along the Otty Point transect. Where a soft substrate was present at benthic sampling points, a sample was collected to measure the particle size by the wet sieve method (Folk, 1968). A sub-sample was ashed and the per cent loss on ignition determined. The SCUBA observations took place in August and September. Additionally, duplicate dredge samples were taken at the 3, 6, 9, 12 and 15 m depth contours on transects 1 km apart from Bouchette Point to Otty Point. Material collected by dredge was sorted by particle size. Inability to obtain a sample was interpreted as indicating bedrock. Particle size data from SCUBA and dredge surveys were combined for the purpose of substrate mapping.

2.1.2 Sedimentation

Sediment traps were set at 3, 7 and 12 m depths along five transects (O, Q, S, U and Y) over two 3-month intervals beginning in May and recovered in August and November.

The traps were retrieved by SCUBA divers who capped the tubes prior to recovery. Following a predetermined settling period,

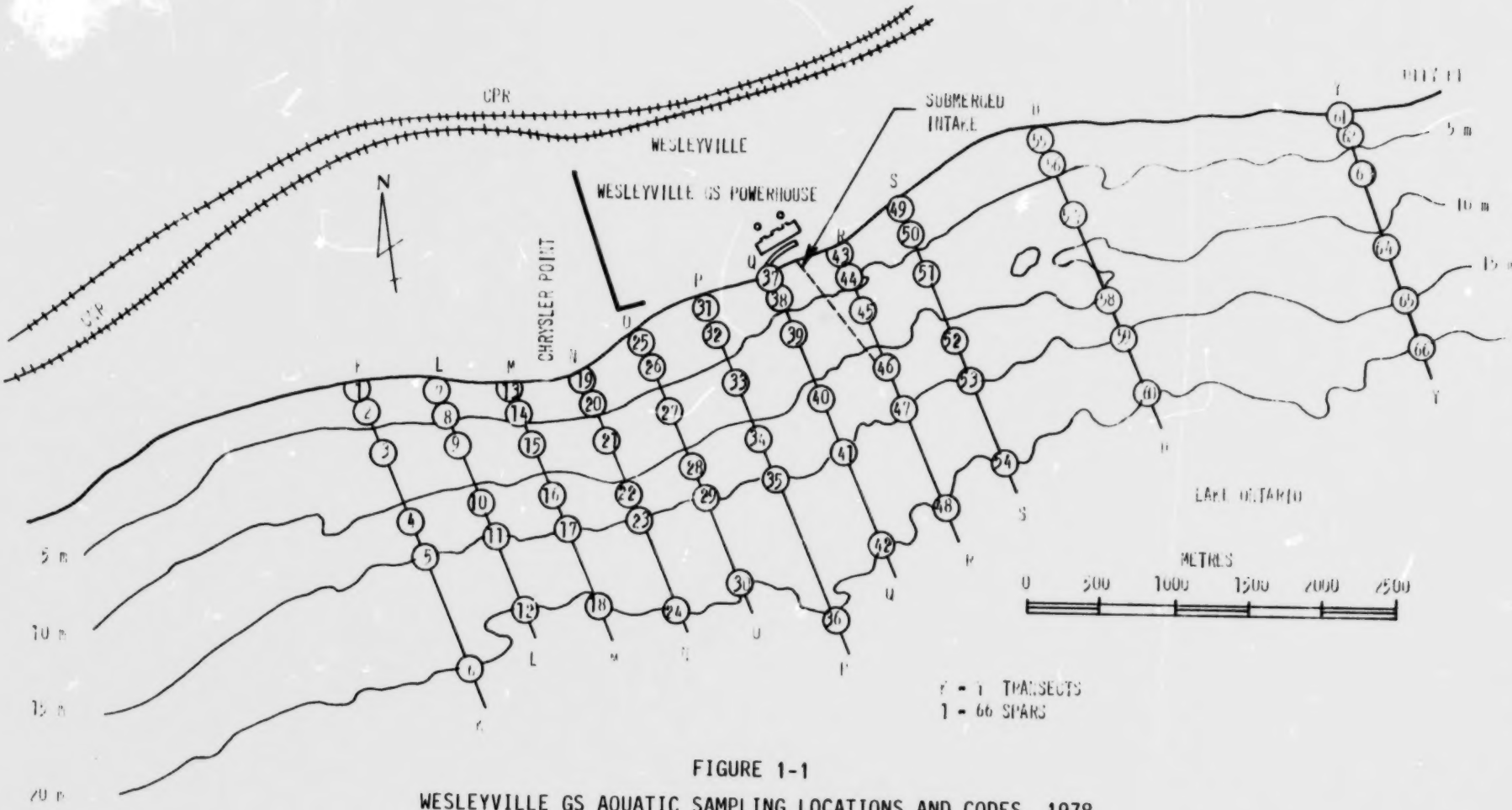


FIGURE 1-1

WESLEYVILLE GS AQUATIC SAMPLING LOCATIONS AND CODES, 1978

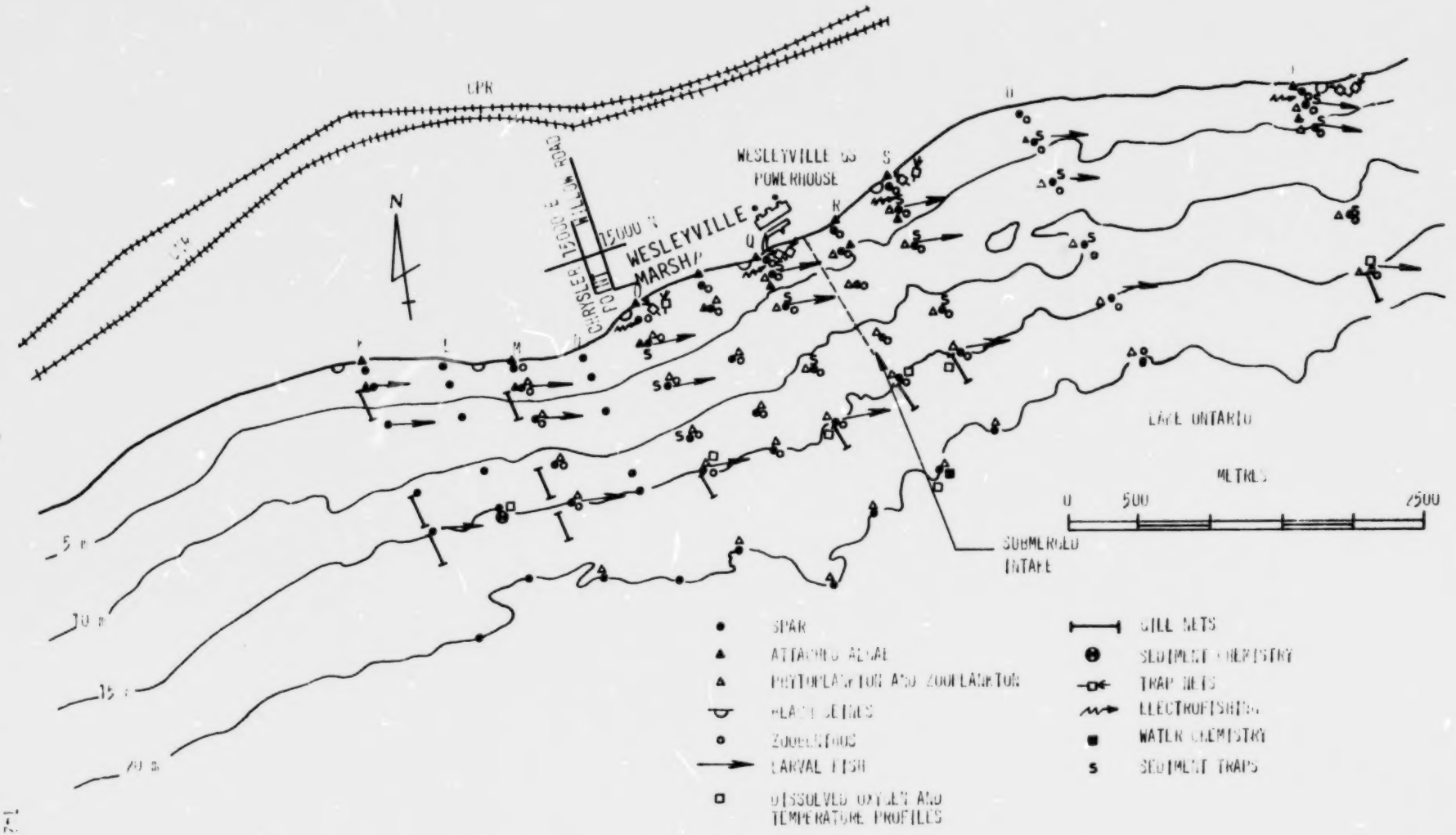


FIGURE 1-2

WESLEYVILLE GS SAMPLING LOCATIONS AND TYPES OF SAMPLES TAKEN

the contents of the tubes were oven dried at 105°C to constant weight and ashed for 2 hours at 525°C.

The results were expressed as: a) amount of material (dried weight) trapped in sedimentation tubes, and b) amount of trapped material lost on ignition. The two determinations can be loosely interpreted as being indicators of: a) a measure of potential stability at the sediment surface, and b) maximum amount of detritus available to detritus feeders at the sediment surface. A statistical spatial comparison was also conducted.

2.1.3 Temperature, Dissolved Oxygen and Water Transparency

Monthly temperature and dissolved oxygen profiles were taken from May to October at 15 m depths along transects O, Q, R, S and Y, and at the 20 m depth on R (R48). Secchi depths were recorded at the same time. Continuous bottom water temperature recordings were taken at distances of 0.2, 1.2 and 2.1 km offshore on a transect 1.3 km west of the intake location by Hydraulic Studies and Development correlated with the monthly temperature profiles.

2.2 Water and Sediment Chemistry

Water samples for chemical analyses were taken four times during the year - February, May, August and October. Two samples were taken on each sampling trip; one from the surface and one from the bottom at the intake location (Spar R48). Chemical determinations made are shown in Table 2-1.

The sample preservation techniques employed follow the methods specified in "Outline of Analytical Methods" (Ontario Ministry of the Environment, 1975).

One sediment sample was taken by dredge at the intake location (Spar R47) for analysis of heavy metals as listed in Table 2-1.

2.3 Phytoplankton and Zooplankton

A total of forty points was sampled on a grid pattern. Phytoplankton samples in May, August and October were collected using a 3 m PVC tube at five sampling locations on each of transects M, O, P, Q, R, S, U and Y (Figure 1-2). In addition, a surface, mid-depth and bottom sample was taken using a Van Dorn water bottle at the Wesleyville 'A' intake location (Spar R47) to determine any vertical stratification. February samples were taken at the 3, 7 and 15 m points on transects M, O, Q, and S plus a surface, mid-depth and bottom sample at the intake location (R47).

Sample analysis was restricted to the counting and measurement of the four or five dominant taxa in the surface samples plus a complete count of the two deep samples and a single integrated surface subsample at Spar R47. A map of the surface distribution

TABLE 2-1

WATER CHEMISTRY DETERMINATIONS
WESLEYVILLE GS 'A' - 1978

Colour	Sodium	
Conductivity	Potassium	
Turbidity	Calcium	
Suspended Solids and Ash	Magnesium	
Dissolved Solids and Ash	Chloride	
Total Organic Carbon	Sulphate	
Total Inorganic Carbon	Phenols	
Total Hardness		
Total Alkalinity	Iron	
pH	Manganese	
Total Phosphorus	Lead	
Orthophosphorus	Copper	
Total Nitrogen	Zinc	
Soluble Nitrogen	Arsenic	
Ammonia	Beryllium	Heavy
Nitrate	Cadmium	Metals
Total Silica	Chromium	
Dissolved Silica	Cobalt	
Chemical Oxygen Demand	Mercury	
Chlorophyll a	Selenium	
Oil and Grease	Nickel	
	Silver	
	Vanadium	

Total Coliforms, Fecal Coliforms, Streptococci — by Ministry of the Environment

of the dominant species was constructed. Two-way analysis of variance (ANOVA) was performed on phytoplankton biomass levels.

Zooplankton were collected at the same times and locations as phytoplankton. A 27 L Schindler-Patalas trap was used for sample collection with a 64 u mesh in the straining bucket. All rotifers, cladocerans, cyclopoid and calanoid copepods were counted. Mutual Information Analysis (MIA) and two-way analysis of variance (ANOVA) were performed on the zooplankton data.

2.4 Zoobenthos

Triplicate samples were collected at 1, 3, 7, 12 and 15 m depths on transects M, O, P, Q, R, S, U and Y three times a year (June, August and October). A vacuum dredge was used at sampling locations where a hard substrate was present and a ponar dredge (sampling area 0.052 m^2) for soft substrate. All samples were selected by inspection for further analysis. One sample was completely enumerated and identified to species level where possible. The second sample was sorted and dried and biomass determinations were made to either family, genus or species level where possible. The third sample was stored. Since two different types of sampling devices were used, the absolute numbers of organisms collected were translated into a common denominator (number of organisms/metre^2). The number of organisms collected in vacuum dredges were multiplied by 6.58 to obtain the number of organisms/metre^2. In addition, percentage of total and frequency of occurrence data were constructed. Diversity indices (Shannon-Weiner) were calculated for each sample and the results presented in tabular form.

Mutual Information Analysis (MIA) was done for each month on all identified samples with the results used to illustrate the spatial distribution of assemblages. Once assemblages were identified as statistically significant groups, the assemblages were subjected to multivariate discriminant analysis (Green and Vascotto, 1978). The variables used were substrate composition, depth, inorganic sedimentation rate, organic sedimentation rate, temperature, algal cover and location relative to estimated compensation point.

2.5 Attached Algae

Attached algae were scraped from a measured rock surface (25 cm^2) quarterly from six shoreline locations and 3 m depths on transects K, M, O, P, Q, R, S and Y in June, August and October.

Samples were preserved in 10% formalin. Biomass was expressed as dry weight (g/m^2) following 24 hours drying at 105°C and ash-free dry weight as determined by ignition of the samples at 525°C for two hours in a muffle furnace.

2.6 Fish

2.6.1 Ichthyoplankton

Daytime larval fish tows were conducted on a bi-weekly basis from April to late August. Surface tows were initiated from three

points on transects K, M, O, Q, S, U and Y using two conical nets, each net being 0.5 m in diameter, and having a mesh size of 361 µ. Two identical five-minute tows were made parallel to shore, along the 3 m, 7 m and 15 m depth contours on the seven transects (Figure 1-2). Simultaneous bottom tows were made at the 7 m and 15 m depths.

One partial set of night time larval tows was conducted in late August to complement daytime larval tows taken in the same week.

Samples were sorted and all larval fish were identified to species when possible. The total length of each species was measured to a maximum of 10 fish in each sample. Larval fish were randomly selected from sample tows and separated into 5 mm group intervals. These groups were weighed using a Cahn Electrobalance following 24 hours drying at 105°C. The total weight and number of fish in each group were recorded.

2.6.2 Juvenile and Adult Fish

Fish populations were sampled monthly from May to December to determine the species composition, approximate seasonal abundance and distribution. Scales and spines from fish were collected for ageing purposes in order to establish growth rates of principal resident species. Notes were kept on the utilization of the area by spawning fish species.

Fish were sampled with four gear types - beach seines, electrofishing, trap nets and gill nets. Shallow habitats were sampled with 3 beach seine hauls at transects K, M, O, Q, S and Y while two electrofishing runs of about 50 m in length were conducted at transects O, Q, S and Y. Paired trap nets were set in 2.5 m of water for two consecutive nights at transects O, Q, S and Y. Experimental gill nets (variable mesh size from 1-1/2" to 5", 50' sections) were set for one night at the 15 m depth on transects K, M, O, Q, S, Y and at the intake location (transect R). In addition, experimental gill nets were set at the 3-5 m depth (bottom set), the 10-12 m depth (surface and bottom set) and the 15-20 m depth (surface and bottom set) on transects K and M to describe the vertical and horizontal distribution of the dominant fish species.

Gill net catches were speciated, counted and examined for spawning condition. Live fish were returned to the water.

Two hundred fish stomachs were collected from dominant species taken by electrofishing and beach seine catches. Stomach contents from each fish were examined and organisms identified and enumerated where possible. The entire stomach contents were weighed, and the per cent contribution of the various organisms contained in the stomachs was estimated.

An additional gill netting effort was conducted on a weekly basis from November 18 to December 15 to determine the incidence of

spawning whitefish. Transects K, M, O, Q, S and Y were sampled at shallow (5-10 m) and deep (15-20 m) locations. A total of 41 whitefish were aged to determine the age structure and growth of whitefish at Wesleyville.

2.6.3 Acoustic Census

Acoustic census was carried out with a high resolution echo sounding and sorting system whose assembly and testing was completed on July 7 (Ontario Hydro Research Division Report No 78-157-K). Each sample consisted of nine parallel transects perpendicular to shore, covering a 2 km^2 area. Minimum depth sampled was approximately 5 metres. The shallowest depth shell for echo processing was 4-8 metres.

Acoustic census was conducted on August 1 (day and night), September 20 (day and night), November 15 (day and night) and December 18 (day). Results are presented on density distribution maps and in tabular form.

3.0 RESULTS AND DISCUSSION

3.1 Physical Characteristics

3.1.1 Visual Substrate Estimates

The composition of the substrate at the Wesleyville site was very heterogeneous, being comprised of clay, silt, sand, gravel, pebble, cobble, boulders and bedrock. At the majority of the sampling locations, mixtures of the various substrate types were found in widely varying proportions (Appendix 3-1, Figure 3-1). The two easternmost transects (W and Y) were dominated by a combination of fine material namely, clay, silt and sand. Gravel and pebble dominated the substrate at transects U, S and Q, while a diverse mixture of coarse material (gravel, pebble and cobble) was dominant on transect O. Transects K and M were characterized by a dominance of pebble, sand and some clay and silt. Nearshore areas of transects E, G and I were almost 100% sand while the offshore areas on these transects, except transect I, were comprised of a mixture of cobble, pebble, and gravel. Transect I was predominantly sand and silt and was very similar to the two easternmost transects, W and Y.

The per cent composition of gravel and pebble in the nearshore area of transect E ranged from 26-50%, decreased to 1-25% at the 9-12 m depth and increased to 51-75% between the 12-15 m depth (Figure 3-1). The nearshore area of transect G was made up of 76-100% sand. Gravel and pebble (51-76%) dominated the offshore locations combined with a 26-50% cover of cobble and boulders with some sand (1-25%) being found at the 12 and 15 m depths.

At transect I, sand was the dominant substrate type in the nearshore area where it comprised 76-100% of the substrate. The per cent composition of sand dropped off with distance from the

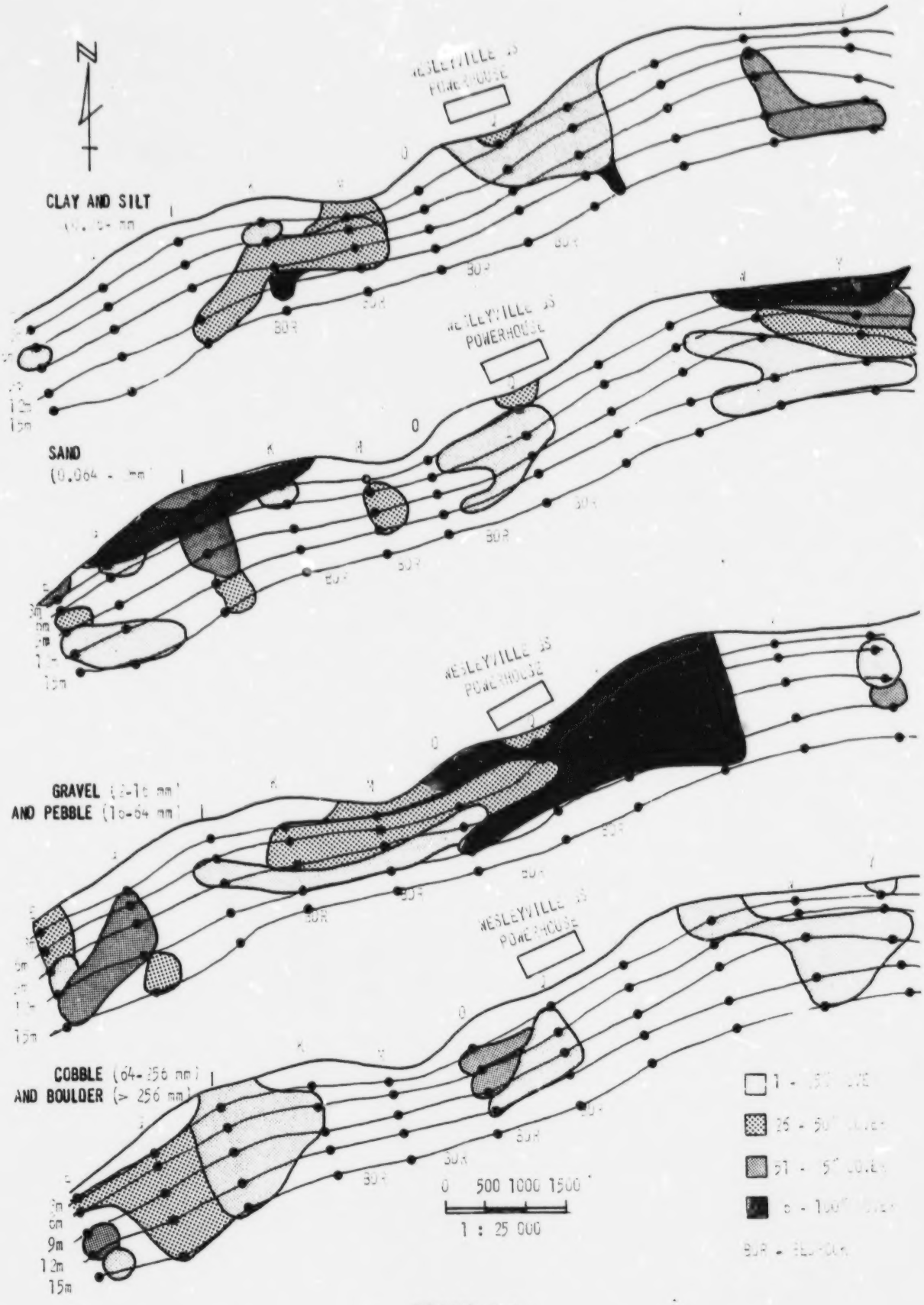


FIGURE 3-1

PER CENT COMPOSITION OF LAKE BOTTOM SUBSTRATE TRANSECTS E - Y
WESLEYVILLE GS A 1978

shoreline and was replaced by gravel and pebble (1-25%) at the 6 and 9 m depths. Cobble and boulder per cent composition was uniform at all sampling intervals and made up 1-25% of the substrate cover. The nearshore zone of transect K was dominated by a 76-100% cover of sand. A mixture of clay, silt, gravel and pebble characterized the substrate at the 12-15 m depths.

The 3, 6, 9 and 12 m locations on transect M were characterized by an even mixture ranging from clay to pebbles, while the 12-15 m interval was bedrock. Gravel and pebble (76-100%) dominated the nearshore zone on transect O but dropped off to a 26-50% cover between the 3 and 6 m depths, and a 1-25% cover between 9-12 m intervals. Coarse material (cobble and boulder) appeared between the 3-9 m depth intervals with a 51-75% cover but decreased in per cent composition to 1-25% between the 9-12 m depth interval where gravel and pebble once again comprised 76-100% of the substrate type.

The shoreline area of transect Q (proposed discharge transect) possessed a mixture of clay and silt, sand and gravel and clay (1-25% cover each). The 3-12 m depth interval had a relatively high percentage of gravel and pebble (76-100% cover) with small percentages of clay and silt, intermixed with coarser sediment. The 15 m depth was characterized by the presence of bedrock.

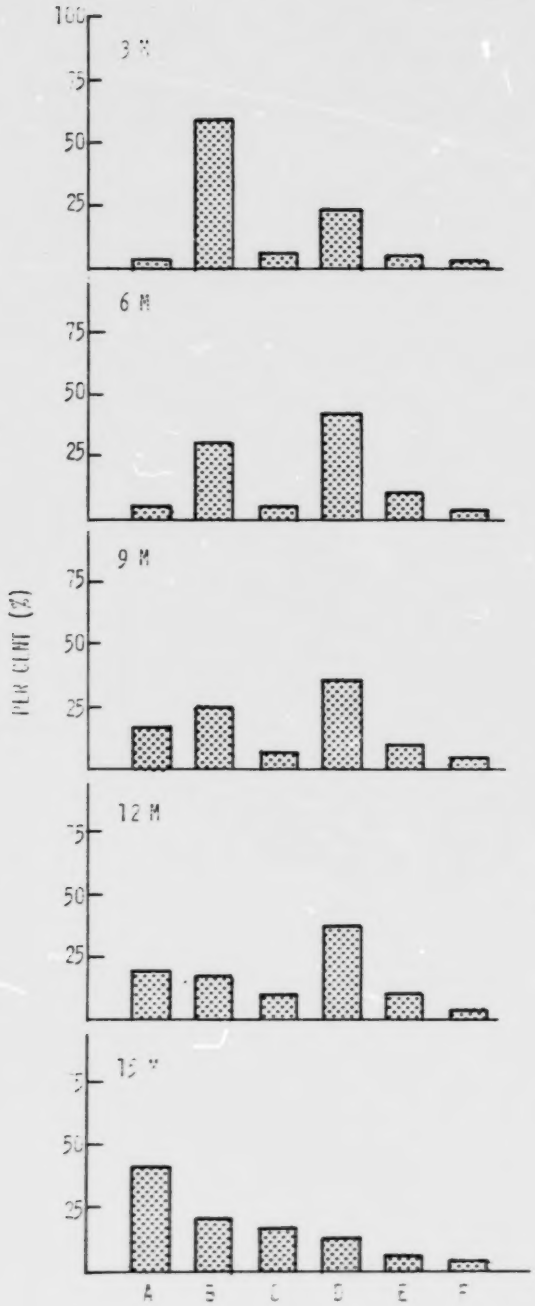
Transects S and U were made up of 76-100% gravel and pebble with a small percentage (1-25%) of clay and silt on transect S and a small percentage (1-25%) of cobble and boulder at the nearshore area of transect U.

Most of the nearshore substrate adjacent to, and just east of Wesleyville GS 'A' was characterized by a gravel-pebble combination.

Three and four kilometres east of Wesleyville GS, seventy-six to one hundred per cent of the nearshore zone of transects W and Y consisted of sand. The dominance of sand showed a progressive decrease with distance from the shoreline. Clay and silt was the dominant substrate type between the 6 and 15 m depths on transect W (51-75%) intermixed with 1-25% cover of boulder and cobble. On transect Y gravel and pebble cover ranged from 1-25% between the 3 to 9 m depths and 51-75% between the 9 to 12 m depths. Clay and silt (76-100%) dominated the 12 to 15 m depth interval and was found in association with a 1-25% cover of sand.

The per cent composition of the various substrate types was averaged for each sampling depth contour with the results as shown in Figure 3-2.

Sand made up 59% of the substrate composition at the 3 m depth contours followed by pebble (24%). At the 6, 9 and 12 m depths pebble took over as the dominant substrate type making up 43, 37 and 38% of the substrate composition respectively. Sand was second in importance at the 6 and 9 m depths with 31 and 25% respectively while at the 12 m depth silt superseded sand in



A - SILT
B - SAND 0.064-2 mm
C - GRAVEL 2-16 mm
D - PEBBLE 16-64 mm
E - COBBLE 64-256 mm
F - BOULDER > 256 mm

FIGURE 3-2

PER CENT COMPOSITION OF LAKE BOTTOM
SUBSTRATE ALONG DEPTH CONTOURS
WESLEYVILLE GS A - 1978

secondary importance (19%). At the 15 m sampling contour, silt was cominant (41%) with the per cent composition of the other substrate types decreasing with an increase in particle size.

The per cent composition of silt increased with depth whereas sand showed a decrease. Gravel showed a slight increase with depth. The per cent composition of pebble and cobble was uniform at the 6, 9 and 12 m sampling contours but decreased at the 3 and 15 m depths. The per cent composition of boulder remained uniformly small at all depths.

3.1.2 Substrate Particle Size Distribution

Samples for particle size determinations were collected from spars where the substrate consisted of some gravel and/or sand. The samples were passed through a series of 11 sieves ranging from 0.027 to 6.3 mm. Samples were collected in October along transects O, P, Q, R, S, U and Y with the results as shown in Appendix 3-2. Conversions of phi units (ϕ) to particle and mesh size are shown in Table 3-1.

TABLE 3-1

CONVERSION OF SIEVE SIZE TO PARTICLE SIZE AND PHI UNITS

Sieve Mesh Opening (in inches^{-1})	Minimum Particle Size Retained in mm	Phi Units (ϕ)	Classification
1/4	6.3	-2.5	Coarse gravel, pebble
5	4.0	-2.0	Fine gravel
8	2.36	-1.2	Fine gravel
12	1.70	-0.75	Coarse sand
76	1.18	-0.25	Coarse sand
20	0.850	0.3	Medium sand
45	0.355	1.6	Medium sand
60	0.250	2.0	Medium sand
80	0.180	2.5	Fine sand and silt
270	0.053	4.3	Fine sand and silt
Pan (<270)	Pan (<0.053)	>4.3	Silt and clay

Although particle sizes ranged from 6.3 mm (-2.5ϕ) to <0.053 mm (pan, >4.3ϕ) over the entire site, the predominant particle sizes had a much narrower range with the 0.355 mm (1.6ϕ) and 0.180 mm (2.5ϕ) particle sizes making up the bulk of most samples (Appendix 3-2).

With the exception of transect R, all transects showed a slight increase in mean particle size with distance from the shoreline (Figure 3-3). At the 1 and 3 m depths on transect R the sediment material was more coarse and possessed wider particle size distributions. Conversely, the 7 m sediment sample on transect R was characterized by much finer material than the other 7 m spar locations. The anomalous distribution of particle sizes on transect R was possibly produced by construction activities.

3.1.3 Sedimentation

Total, inorganic, loss-on-ignition sedimentation, expressed as g/cm^2, is shown in Appendix 3-3, and sedimentation rates in g/cm^2/month, given in Tables 3-2 and 3-3. Sedimentation, in this context, refers to the amount of suspended matter that settles into the vertical pipes of the sediment traps. This technique does not take into account the effect of turbulence on the sedimented material on the natural bottom.

Mean total, inorganic and loss-on-ignition sedimentation rates (g/cm^2/month) decreased with depth for both the May to August and the August to November sampling periods (Tables 3-2 and 3-3). Inorganic sedimentation made up 96% and 94% of the total sedimentation from May to August and August to November, respectively. The total sedimentation rates at the 3, 7 and 12 m depths from August to November were 6.3, 10.2 and 3.4 times the rates for the same sample depth contours from May to August.

Nearshore inorganic sedimentation rates from May to August at transects Q (Wesleyville GS) and U were high compared to the other transects. Construction activities at transect Q were responsible for the high nearshore inorganic sedimentation rate (2.7 g/cm^2/ month). The high rate at transect U probably resulted from the deposition of inorganic material associated with high spring flows from the stream located immediately west of the transect. Loss-on-ignition sedimentation rates appeared to increase in an easterly direction from May to August, with the nearshore rate at transect Q (proposed discharge) being the lowest (0.062 g/cm^2/ month) and the nearshore rate at transect Y (Otty Point) being the largest (0.122 g/cm^2/month).

Construction activities coupled with the resuspension of material as a result of high fall winds resulted in high nearshore inorganic and loss-on-ignition sedimentation rates (17.5 and 0.95 g/cm^2/ month, respectively) at transect Q from August to November.

Transects S and Y at all sampling depths had relatively low sedimentation rates during both sampling periods with nearshore total sedimentation rates of 0.41 and 0.40 g/cm^2/month.

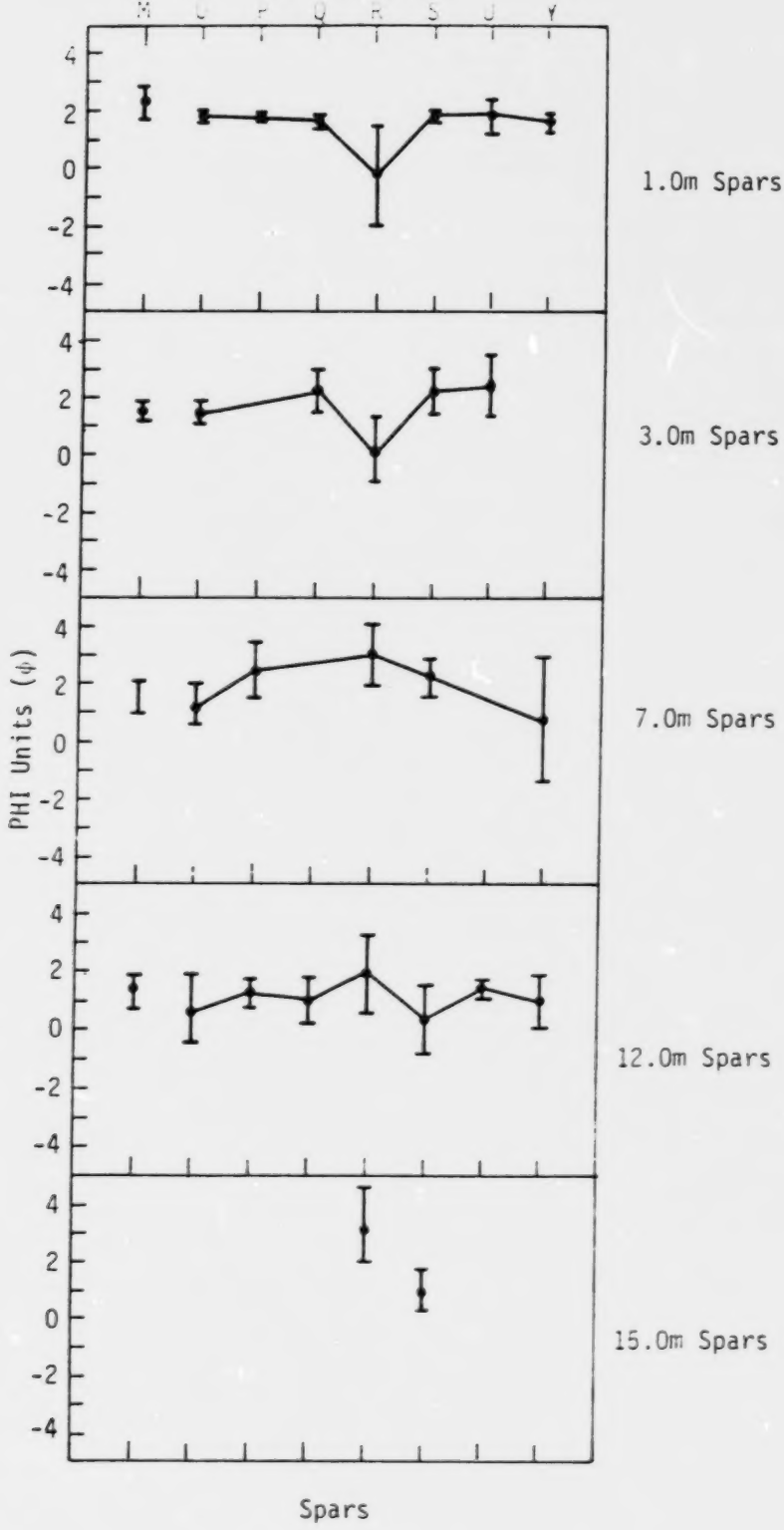


FIGURE 3-3

GRAPHIC MEANS AND STANDARD DEVIATIONS
OF GRAIN SIZE DISTRIBUTIONS AT SPAR LOCATIONS
WESLEYVILLE GS A - 1978

144585 RD

79-195
82-456

TABLE 3-2

SPATIAL COMPARISON OF MEAN MONTHLY
TOTAL, INORGANIC AND LOSS-ON-IGNITION
SEDIMENTATION RATES (g/cm^2/Month)
MAY - AUGUST
WESLEYVILLE GS 'A ' - 1978

Total Sedimentation Rate

T R A N S E C T

Depth	O	Q	S	U	Y	$\bar{X}$
3	ND	2.722	0.414	2.7[illegible]	0.396	1.5[illegible]
7	ND	0.047	0.177	0.[illegible]	ND	0.[illegible]
12	0.016	0.362	0.089	0.0[illegible]	0.068	0.109

Inorganic Sedimentation Rate

T R A N S E C T

Depth	O	Q	S	U	Y	$\bar{X}$
3	ND	2.66	0.33	2.6[illegible]	0.27	1.48
7	ND	0.05	0.15	0.3[illegible]	ND	0.[illegible]
12	0.02	0.34	0.08	0.0[illegible]	0.07	0.[illegible]

Loss-on-Ignition Sedimentation Rate

T R A N S E C T

Depth	O	Q	S	U	Y	$\bar{X}$
3	ND	0.062	0.086	0.09[illegible]	0.122	0.[illegible]
7	ND	0.002	0.030	0.0[illegible]	ND	0.014
12	0.001	0.020	0.006	0.00[illegible]	0.003	0.006

ND = No Data

TABLE 3-3

SPATIAL COMPARISON OF MEAN MONTHLY TOTAL, INORGANIC AND LOSS-ON-IGNITION SEDIMENTATION RATES (g/cm^2/Month)
AUGUST - NOVEMBER
WESLEYVILLE GS 'A' - 1978

Total Sedimentation Rate

	TRANSECT					
Depth	O	Q	S	U	Y	$\bar{X}$
3	11.54	18.43	5.15	11.[illegible]	3.71	10.07
7	2.49	2.24	1.38	0.6[illegible]	3.24	2.00
12	0.31	ND	0.36	0.[illegible]	0.20	0.34

Inorganic Sedimentation Rate

	TRANSECT					
Depth	O	Q	S	U	Y	$\bar{X}$
3	11.40	17.48	5.04	11.[illegible]	3.55	9.7[illegible]
7	2.42	2.13	1.34	0.[illegible]	3.11	1.9[illegible]
12	0.29	ND	0.34	0.[illegible]	0.18	0.[illegible]

Loss-on-Ignition Sedimentation Rate

	TRANSECT					
Depth	O	Q	S	U	Y	$\bar{X}$
3	0.14	0.95	0.11	0.[illegible]	0.16	0.[illegible]
7	0.07	0.11	0.04	0.0[illegible]	0.13	0.07
12	0.02	ND	0.02	0.03	0.02	0.02

ND = No Data

respectively from May to August and 5.15 and 3.71 g/cm^2/ month respectively from August to November.

3.1.4 Temperature, Dissolved Oxygen and Water Transparency

Daily mean water temperatures (Hydraulic Studies Dept) were recorded at three depths on a transect 1.3 km west of the proposed intake (transect O), as shown in Appendix 3-4. Monthly temperature and dissolved oxygen profiles taken at 15 m depths along transects O, Q, R, S and Y and at the 20 m depth on transect R (spar 48) are shown in Appendix 3-5.

Bottom water temperatures recorded at a depth of 2.0 m on transect O, 200 m offshore ranged from 3.8°C on April 8 to 22.5°C on August 15 (Figure 3-4). Bottom water temperatures 1.2 km (15.0 m depth) and 2.2 km (21.0 m depth) offshore were progressively colder with ranges of 2.5°C (April 9) to 20.5°C (August 25) at the intake depth contour and 2.3°C (April 9) to 17.8°C (August 13) at the 20 m depth (Figure 3-5).

The Wesleyville site was subject to sporadic cold water upwellings through the months of July, August and early September. The maximum drop in water temperature at the recording site 0.2 km offshore occurred between August 16 and August 18 when temperatures dropped from 22.5°C to 11.2°C (Δt = 11.3°C) in a three-day period. At the same depth contour as the proposed intake location (1.2 km offshore) the maximum drop in water temperature occurred between August 8 and August 10 when the temperature dropped from 16.9°C to 6.0°C (Δt = 10.9°C) in a three-day period.

The occurrence of cold water upwellings during the summer months (Figure 3-4) precluded to some degree the existence of a persistent thermocline and as a result, only mild thermal stratification existed (Figure 3-8).

Wesleyville intake temperature profiles at spar R47 (15 m) showed near-isothermal conditions on May 11 and June 15 (Figure 3-6) with surface to bottom temperature differences of 2.0°C and 1.0°C respectively. Temperature profiles in summer showed a more accentuated thermal stratification than was seen in May or June. The July 19 temperature profile with a range of 15.0°C (surface) to 7.0°C (bottom) had the greatest temperature difference (8.0°C) for the year. The maximum temperature difference on August 22 was 3.5°C. September 19 and October 5 temperature profiles more closely approximated the isothermal conditions that were evident in May and June. September 19 surface and bottom temperatures varied by only 1.0°C (17.5°C at the surface and 16.5°C at the bottom) while October 5 values varied from 15.0°C at the surface to 14.8°C at the bottom (Δt = 0.2°C). The September and October temperature profiles reflected the onset of fall turnover.

Since the intake for the Wesleyville plant was proposed to be located at the 15 m depth on transect R the yearly fluctuations

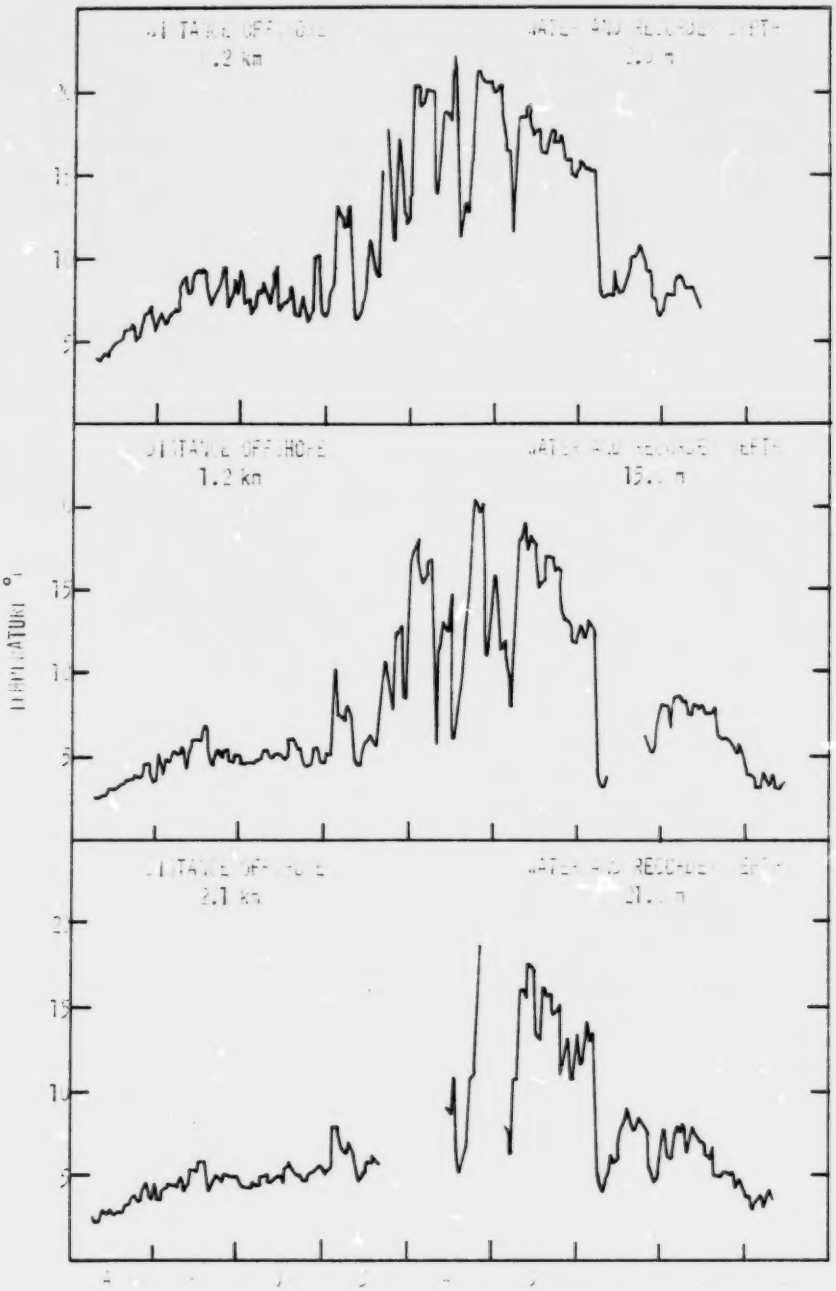


FIGURE 3-4

MEAN DAILY WATER TEMPERATURES AT SELECTED SITES
ON A TRANSECT 1.3 km WEST OF INTAKE
WESLEYVILLE GS A - 1978

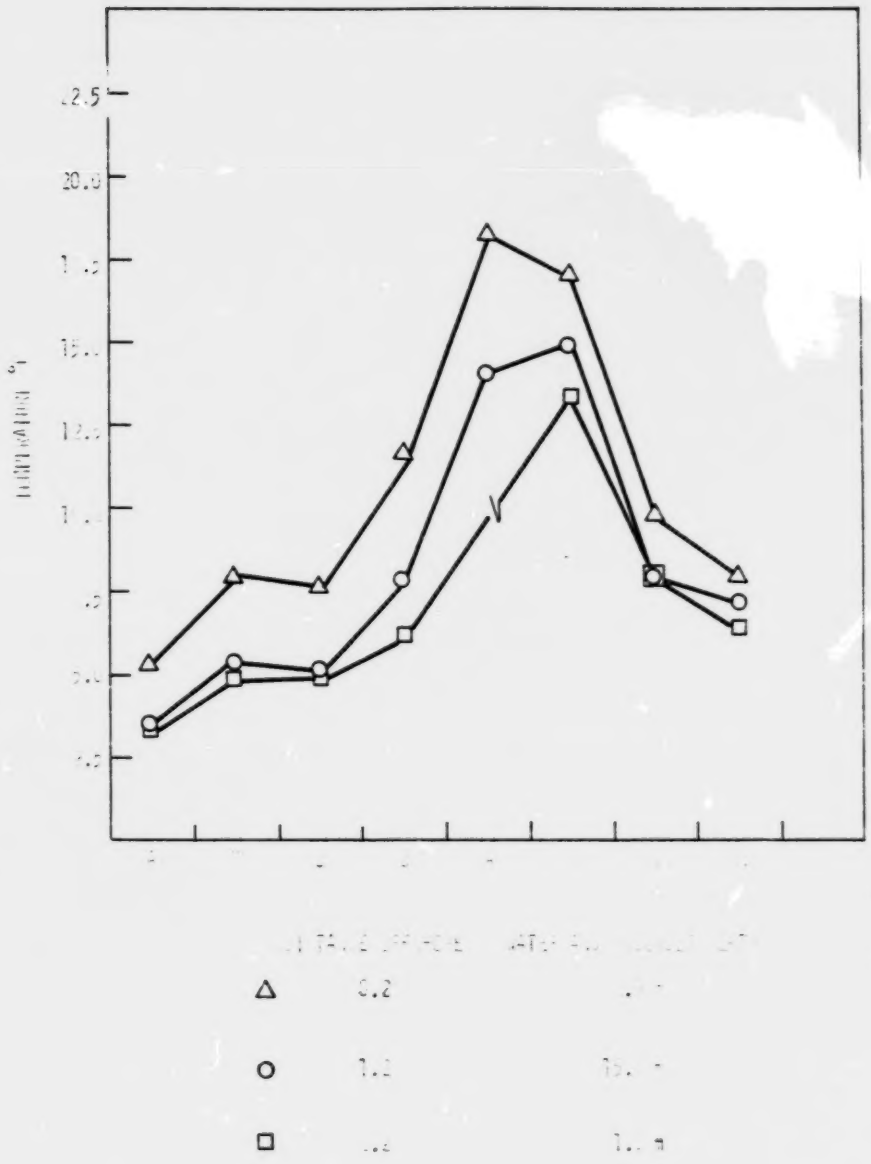
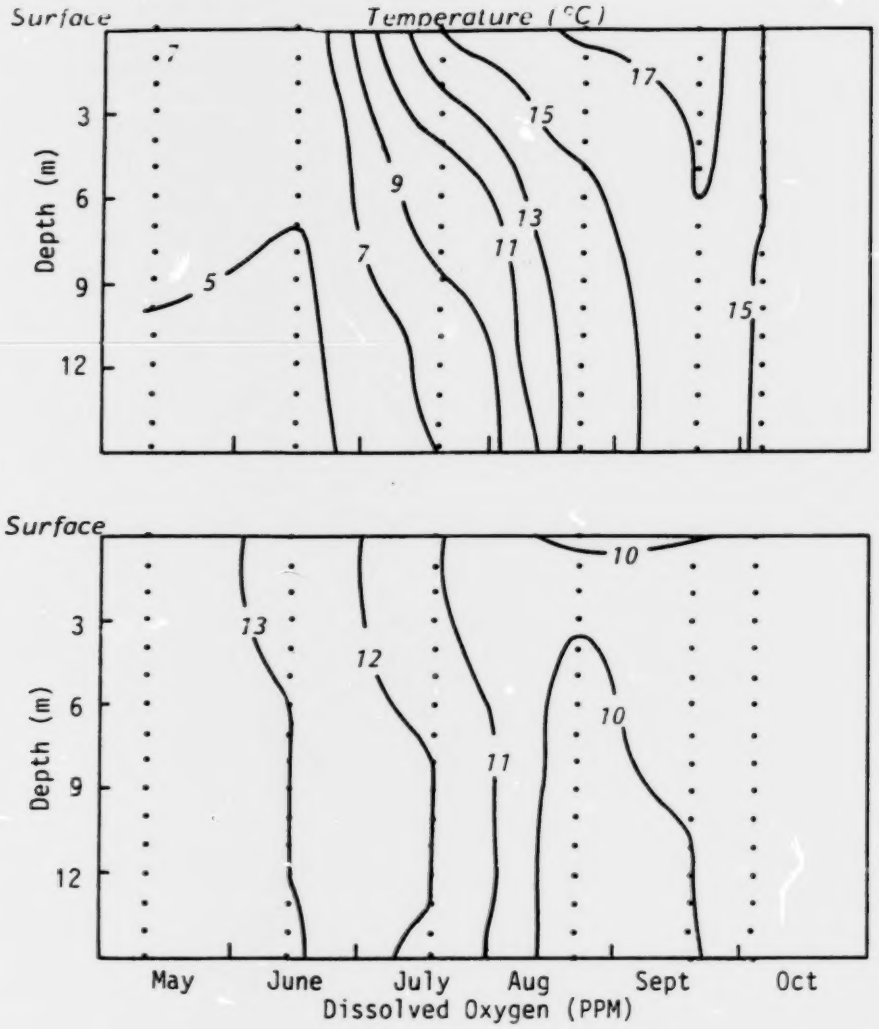


FIGURE 3-5

MEAN MONTHLY WATER TEMPERATURES
AT SELECTED SITES ON A TRANSECT
1.3 km WEST OF INTAKE WESLEYVILLE GS A - 1978



•Recording Points

FIGURE 3-6

ISOTHERMS AND DISSOLVED OXYGEN
ISOPLETHS AT INTAKE LOCATION TRANSECT R (SPAR 47)
WESLEYVILLE GS 'A' - 1978

in temperature at this location are of great importance. The data collected on the transect located 1.3 km west of the intake location, coupled with the monthly profiles at this location, indicated that intake water for the period studied ranged from a low of 2.5°C (April 9) to a maximum of 20.5°C (August 25).

Dissolved Oxygen

Dissolved oxygen concentrations from May to October ranged from 9.8 to 13.5 ppm (94-116% saturation). In May, June and July, surface to 6 m depth dissolved oxygen values were slightly lower than concentrations found at depths from 6 m to the bottom on the same sampling dates (Figure 3-6). The lowest dissolved oxygen concentration (9.8 ppm) was recorded at the surface on August 22.

Water Transparency

Secchi disc readings taken on the 15 m contour on transects O, Q, R, S and Y varied from 2.5 m (May 5) to 5.0 m (Oct 11). Monthly mean Secchi disc values across the five transects varied from 2.8 m on May 5 and August 22 to 4.6 m on October 11 (Table 3-4).

TABLE 3-4

SECCHI DISC READINGS TAKEN AT
15 METRE DEPTHS ON TRANSECTS O, Q, R, S AND Y
WESLEYVILLE GS 'A' - 1978

	Transect					
Date	O	Q	R	S	Y	Monthly Means
May 5	2.5	2.5	2.5	3.0	3.5	2.8
June 15	3.9	4.1	3.7	3.9	3.9	3.9
July 12	3.5	3.8	4.0	3.9	3.7	3.8
Aug 22	2.8	2.8	2.8	2.8	2.8	2.8
Sept 19	3.7	3.4	4.0	4.0	4.0	3.8
Oct 11	5.0	5.0	5.0	2.9	5.0	4.6
Oct 31	3.5	3.5	4.1	3.2	2.3	3.3
Transect Means	3.6	3.6	3.7	3.4	3.6	

The low water transparency readings on May 5 were particularly evident on the transects in closest proximity to construction activities (transects O, Q and R - 2.5 m), while transparencies on the more remote transects of S and Y were 3.0 and 3.5 m respectively. The localized low water clarity values on transects O, Q and R were probably the result of the deposition and resuspension of particulate material associated with construction

activities, since during this period phytoplankton biomass levels were low (see Table 3-11). On August 22 low water transparency values of 2.8 m were recorded on all transects and suggested the possible occurrence of wind induced resuspension of particulate material as opposed to the localized effect of construction activities. Over the entire year, no real differences in water transparency could be found among the five transects with yearly means that varied from 3.4 m (transect S) to 3.7 m on transect R.

3.2 Water and Sediment Chemistry

3.2.1 Description of Existing Water/Sediment Chemistry Conditions

Appendix 3-6 contains the results of water quality analyses performed on samples collected in February, May, August and October while Appendix 3-7 contains the results of heavy metal analyses performed on samples collected on August 2 at spar R47.

Water Quality

Seasonal variation in indicators of standing crop - namely total phosphorus, total nitrogen and chlorophyll *a* is shown in Figure 3-7. Surface total phosphorus concentrations on February 21 and May 11 were essentially equal (20-25 µg/L), however, the bottom total phosphorus level on May 11 (19 µg/L) showed a substantial reduction when compared to the February 21 level of 60 µg/L. August 22 and October 24 surface and bottom concentrations were below the limits of detection (ie <10 µg/L). A similar range in total phosphorus levels (<10 µg to 60 µg) was observed at Pickering GS in 1975 (Ontario Hydro Research Division Report No 80-226-K). The Ministry of the Environment (1981) suggests that Ontario average levels of total phosphorus during the ice-free period should not exceed 20 µg/L to avoid possible nuisance levels of algae in lakes.

Total nitrogen levels on the four sampling dates remained more or less equal with concentrations that ranged from 200 to 280 µg/L. These concentrations were within the range observed at Pickering in 1975.

Chlorophyll *a* concentrations in February (0.50 and 0.73 µg/L) were especially low but increased to levels indicative of early mesotrophy in May (2.8 and 3.2 µg/L). This increase in chlorophyll *a* levels was indicative of a substantial increase in phytoplankton biomass. The August 22 bottom chlorophyll *a* level (2.7 µg/L) showed only a slight reduction from the bottom May 11 chlorophyll *a* value (3.2 µg/L) but the August 22 surface value (1.0 µg/L) constituted a large reduction when compared to the May 11 surface value (2.8 µg/L). Surface and bottom chlorophyll *a* levels on October 24 (3.5 µg/L) increased substantially from the August 22 values and reflected a second pulse in phytoplankton biomass.

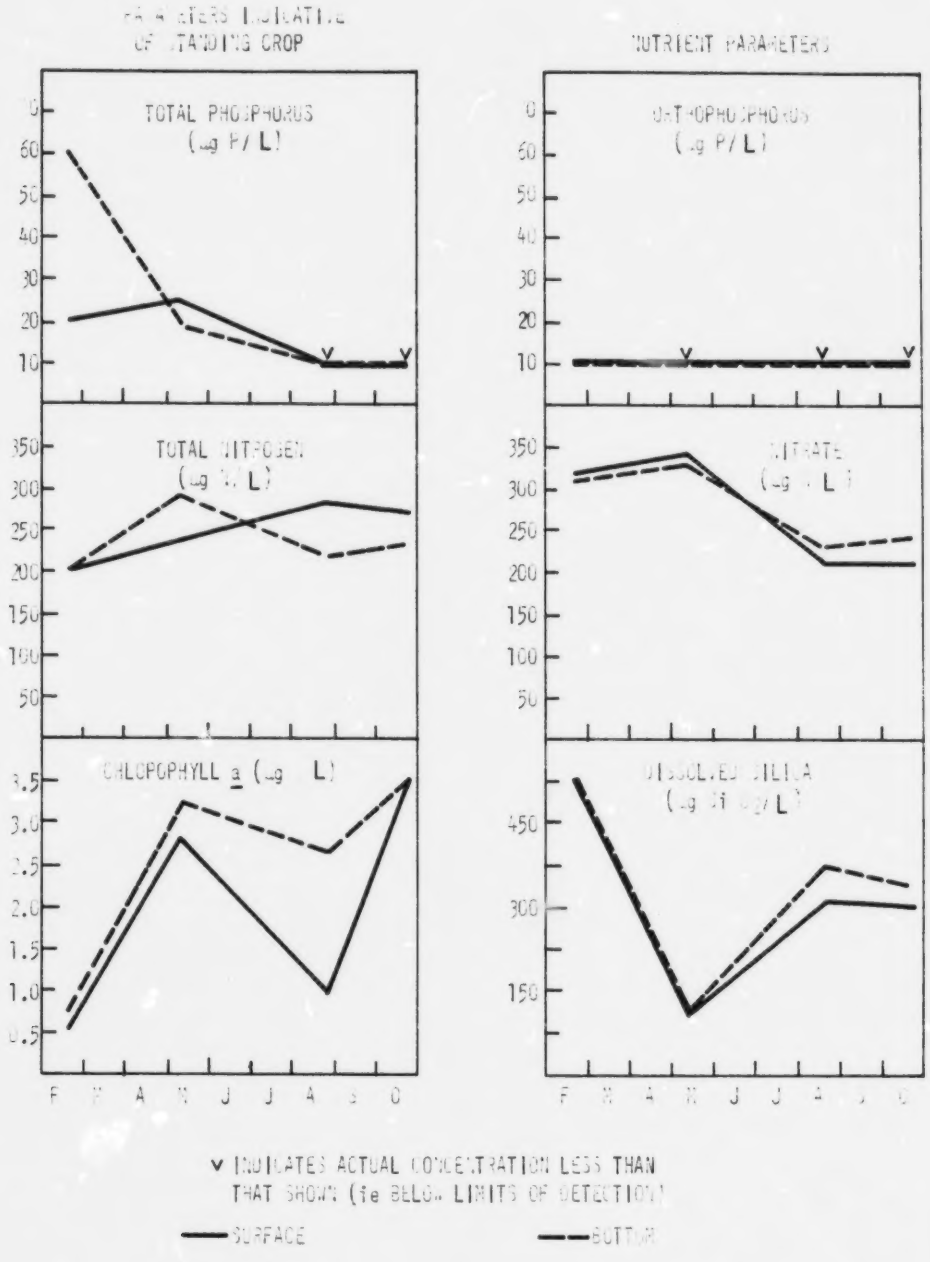


FIGURE 3-7

STANDING CROP AND NUTRIENT WATER QUALITY PARAMETERS
WESLEYVILLE GS A - 1978

On the first three of the four total chlorophyll *a* sampling dates, bottom concentrations were higher than their corresponding surface concentrations. The chlorophyll *a* analyses do not differentiate between photosynthetically active chlorophyll *a* and the breakdown products of chlorophyll *a* (pheophytins) which are not photosynthetically active. Since the photic zone at spar L11 did not extend to the bottom on any sampling date, it is very probable that bottom chlorophyll *a* levels are, in fact, mostly pheophytins and not active chlorophyll *a*. By the same token, the majority of the chlorophyll in surface samples is probably active chlorophyll a as opposed to pheophytins.

Orthophosphorus, nitrate and soluble silica are nutrient parameters and are, therefore, important constituents for the growth of phytoplankton. Orthophosphorus concentrations on all four sampling dates were exceedingly low. On the latter three sampling dates levels in both surface and bottom samples were below the limits of detection (ie <10 µg/L).

Surface and bottom nitrate levels on February 21 and May 11 were virtually equal and ranged from 310 to 340 µg/L. By August 22, nitrate levels had dropped to 210 µg/L at the surface and 230 µg/L at the bottom. October values ranged from 210 to 240 µg/L. The drop in nitrate levels between May and August was probably the result of the assimilation of this inorganic nitrogen form into phytoplankton growth in June and July.

Dissolved silica levels were at their highest concentrations on February 21 (530 µg/L) and dropped to 110 µg/L by May 11. This drop corresponded to a pulse in diatom growth as a result of the incorporation of dissolved silica by these phytoplankton. On August 22 dissolved silica levels had risen to approximately three times the May 11 values with surface and bottom concentrations of 320 and 380 µg/L respectively. October 24 levels were similar to those on August 22 with surface and bottom concentrations of 300 and 340 µg/L respectively.

The results of chemical analyses for the more common heavy metals showed a high degree of consistency among the four sampling dates (Appendix 3-6). Calcium concentrations ranged from 37-40 mg/L while magnesium, sodium and potassium had ranges of 6.6-9.6 mg/L 11-13 mg/L and 1.0-1.8 mg/L. Iron values were below the limits of detection (<0.5 mg/L) in February, May and August. When the analytical technique for the analysis of iron was improved, a surface concentration of 19 µg/L and a bottom concentration of 63 µg/L was obtained.

Many of the trace metals were at or below the limits of detection (eg cadmium, silver, selenium and beryllium). Variations in limits of detection from one sampling date to the other were the result of changes in the analytical technique as well as the organization performing the analyses. February 21 heavy metal analyses were done by the Analytic Services Section of Ontario Hydro whereas May, August and October samples were analyzed by Barringer Research Limited.

The aberrant surface lead value on May 11 (54 µg/L) was probably the result of improper sample bottle washing technique. By the same token, the bottom water sample for suspended solids on February 21 (23.8 µg/L at 105°C) was, in all probability, the result of the Van Dorn bottle disturbing the sediment immediately prior to the collection of the sample. The large turbidity value (8.6 NTU) substantiated this hypothesis.

Selected water quality parameters from 1978 were compared to data collected during the same months in 1969 (Ontario Hydro Research Division Report No 70-182-K) to determine if any appreciable changes in water quality had occurred over the nine year period (Table 3-5). The results indicated that no substantial changes in water quality at the Wesleyville site had taken place since 1969.

Bacteriology

The use of bacteriological parameters in water quality assessment is to indicate the presence of fecal contamination and thus the possible presence of pathogenic bacteria. The standard groups of micro-organisms are total coliforms, fecal coliforms and fecal streptococci. Total coliforms are comprised of species that are commonly associated with soil and vegetation. Fecal coliform bacteria are mainly species associated with human and animal fecal matter and indicate a relatively recent pollution input. Fecal streptococci are usually found in association with fecal pollution from animals and to a lesser extent man.

Water temperatures at the Wesleyville 'A' GS site in September were generally high and it was felt that the collection of bacteriological samples at this time of year would give a good indication of microbial quality at its worst given the positive effect that temperature has on the growth of bacterial populations.

The results of bacteriological analyses (Appendix 3-6) indicated that total coliforms, fecal coliforms and fecal streptococci were found in very low numbers. Total coliforms averaged 10 counts/ 100 mL while fecal coliforms and fecal streptococci averaged 4 counts/100 mL. Although the presence of fecal coliforms usually indicates a recent pollution input, the values found are considered to be quite low.

Sediment Chemistry

One sediment sample comprised primarily of silt with a small percentage of sand was collected at the intake location for heavy metal analysis on August 2 with the results as shown in Appendix 3.7. The 26 analyzed heavy metals comprised approximately 43% of the total sample weight (Table 3-6). Some of the metals most commonly found in the environment (ie calcium, silica, aluminum,

TABLE 3-5

COMPARISON OF SELECTED WATER QUALITY PARAMETERS
WESLEYVILLE GS 'A' - 1969-1978

	1969		1978	
	Range	Mean	Range	Mean
Conductivity (mS/m)	32.4-34.1	33.3	24.9-31.1	28.4
pH	7.8- 8.1	7.9	7.9- 8.4	8.1
Hardness mg/L as $CaCO_3$	135-151	140	120-163	138
Cl (mg/L)	26-27	26.3	23.0-28.4	27.0
SO_4 (mg/L)	26-27	26.3	23.0-26.6	25.5
NO_3 (mg/L)	<0.2- 0.4	-	0.21-0.34	0.27
Orthophosphorus (mg P/L)	<0.1	<0.1	<0.01-0.01	-
Total Phosphorus (mg P/L)	<0.1	<0.1	<0.01-0.06	-
Suspended Solids (mg/L)				
105°C	1.0- 1.9	1.3	0.8-3.9	2.1
550°C	0.2- 0.5	0.4	1.0-2.6	1.6
Dissolved Solids (mg/L)				
105°C	199-223	210	169-221	203
550°C	124-135	131	163-169	167
Ca (mg/L)	39-42	41	37-40	39
Mg (mg/L)	8-12	9.8	6.6-9.6	8.2
Na (mg/L)	12	12	11-13	12.5
K (mg/L)	1.4-1.6	1.5	1.0-1.8	1.3

TABLE 3-6

CONCENTRATION AND PER CENT COMPOSITION
OF HEAVY METALS IN SEDIMENT SAMPLE
WESLEYVILLE GS 'A' - 1978 SPAR R47

Metal	Concentration (mg/kg)		%
Calcium (Ca)	192 000		19.2
Silica (Si)	167 000		16.7
Aluminum (Al)	27 400		2.7
Iron (Fe)	10 900	(10 000)*	1.1
Magnesium (Mg)	10 200		1.0
Potassium (K)	8 730		0.9
Sodium (Na)	7 300		0.7
Titanium (Ti)	1 560		0.2
Strontium (Sr)	400		4.0×10^{-2}
Phosphorus (P)	340		3.4×10^{-2}
Barium (Ba)	314		3.1×10^{-2}
Manganese (Mn)	310		3.1×10^{-2}
Zirconium (Zr)	57.3		5.7×10^{-3}
Zinc (Z)	25.0	(100)	2.5×10^{-3}
Vanadium (V)	22.7		2.3×10^{-3}
Chromium (Cr)	22.6	(25)	2.3×10^{-3}
Molybdenum (Mb)	<20		-
Nickel (N)	14	(25)	-
Cadmium (Cd)	<10	(1)	-
Lead (Pb)	<5	(50)	-
Cobalt (Co)	<4	(50)	-
Arsenic (As)	<1	(8)	-
Silver (Ag)	<0.4	(0.5)	-
Copper (Cu)	<0.3	(25)	-
Beryllium (Be)	<0.1		-
Mercury (Hg) (µg/kg)	20	(300)	-
Thorium (Th) (µg/kg)	<2		-

*MOE Guidelines for levels indicative of contaminated sediments.

iron, magnesium, sodium and potassium) were evident in the greatest concentrations and made up a total of 42.3% of the sediment. Calcium (19.2%) and silica (16.7%) were the dominant heavy metals found. Twenty-two heavy metals were found in concentrations that made up less than 1% of the sample weight with thorium having the smallest concentration of <2 µg/kg. Molybdenum (<20 mg/kg), cadmium (<10 mg/kg), lead (<5 mg/kg), cobalt (<4 mg/kg), arsenic (<1 mg/kg), silver (<0.4 mg/kg), copper (<0.3 mg/kg), beryllium (<0.1 mg/kg) and thorium (<2 µg/kg) were found in concentrations below their respective limits of detection.

MOE (1976) Guidelines are provided for indication of contamination of sediments by 11 of the metals analyzed. Six, including mercury and lead, were well below levels indicative of contamination (Table 3-6). Chromium and nickel levels approached the guideline levels. Silver and cadmium were determined to be below limits of detection which were close to or exceeded the guidelines, so that their status as contaminants could not be assessed. Only iron was found at a level suggestive of moderate contamination.

3.3 Phytoplankton and Zooplankton

3.3.1 Phytoplankton

Appendix 3-8 contains biomass figures for the dominant species of phytoplankton collected on four dates in 1978. Three or four species made up the bulk of the phytoplankton community, and as such, only the dominant species that collectively made up more than 90% of the phytoplankton biomass on each sampling date, were identified. The seasonal changes in dominant species and total biomass are shown in Table 3-7. This shows the diatoms (Bacillariophyta) dominating early in the year, and replaced largely by the dinoflagellates (Cryptophyta) in summer and fall. Total algal biomass increased as the year progressed.

February 21 - the diatom *Stephanodiscus niagarae* dominated the phytoplankton community on February 21 and, overall, made up 89.5% of the phytoplankton biomass (Table 3-7). A mutual information analysis of these data indicated the total dominance of this species in February. Only one distinct phytoplankton group was evident at all sampling locations on this date (Table 3-8) (a and b). *S. niagarae* was dominant (89.5%) while the dinoflagellate *Cryptomonas sp* with 3.3% of the phytoplankton biomass was second in importance.

Biomass levels of *S. niagarae* varied from 42 to 456 mg/m^3 [Table 3-7 (c)]. The biomass spatial distribution was subjected to a two-way analysis of variance (Appendix 3-9). No significant differences in biomass levels were found either among transects or among sampling contours. Although lowest biomass was observed in transect Q, the high variability among samples masked any significant trends.

TABLE 3-7

SEASONAL CHANGES IN DOMINANT PHYTOPLANKTON
- % OF TOTAL BIOMASS

Species	Division	Date			
		Feb 21	May 12	Aug 23	Oct 18
Stephanodiscus niagarae	Bacillariophyta	89.5			
Asterionella gracillima	Bacillariophyta		61.9		
Stephanodiscus binderanus	Bacillariophyta		19.5		
Melosira granulata	Bacillariophyta		15.3		
Cryptomonas sp	Cryptophyta			68.5	91.4
Rhodomonas minuta	Cryptophyta			17.1	7.2
Chroococcus sp	Cyanophyta			12.4	
TOTAL BIOMASS - mg/m^3		386.1	851.9	1094.3	2237.9

SPATIAL DISTRIBUTION OF PHYTOPLANKTON GROUPS AS DETERMINED BY MUTUAL INFORMATION ANALYSIS
FEBRUARY 21 - **WESLEYVILLE GS 'A'** - 1978

a

	TRANSECT							
Depth Contour	M	O	P	Q	R	S	U	Y
3	1	1	-	1	-	1	-	-
7	1	1	-	1	-	1	-	-
12	-	-	-	-	-	-	-	-
15	1	1	-	1	1	1	-	-
20	-	-	-	-	-	-	-	-

b

Species	% Composition Group 1
Stephanodiscus niagarae	89.5
Cryptomonas sp	3.0
Scenedesmus bijuga	1.9
Melosira granulata	0.9

c

SPATIAL DISTRIBUTION OF DOMINANT SPECIES BIOMASS (mg/m³)

Stephanodiscus niagarae

Depth Contour	TRANSECT M	O	P	Q	R	S	U	Y	Mean Contour Biomass
3	373	498	-	249	-	290	-	-	352.5
7	456	456	-	42	-	456	-	-	352.5
12	-	-	-	-	-	-	-	-	
15	249	415	-	290	249	456	-	-	331.3
20	-	-	-	-	-	-	-	-	
Mean Transect Biomass	359.3	456.3	-	109.7	-	400.7	-	-	345.6

May 12 - Of the five species that collectively made up more than 90% of the phytoplankton biomass on this date, three were Baccillariophyta (diatoms) while two were Chlorophyta (green algae). The diatom *Asterionella gracillima* dominated (61.9%) while the two other *Stephanodiscus binderanus* and *Melosira granulata* made up 19.5% and 15.3% of the total biomass, respectively.

Mutual Information Analysis of the May 12 data indicated that two groups or assemblages were represented among the samples. The existence of Group 1, dominated by *A. gracillima* (65.3%) at 37 of 40 sampling sites, resulted in a homogeneous phytoplankton distribution over the entire sampling grid (Table 3-9 (a and b)). A dominance of yet another diatom, *Melosira granulata*, was found at only three sampling locations.

Biomass values for *A. gracillima* ranged from 230 to 1 005 mg/m^3 [Table 3-9 (c)]. Mean sampling contour biomass levels showed a decrease with distance from the shore from 646.9 mg/m^3 at the 3 m sampling contour to 395.3 mg/m^3 at the 20 m sampling contour.

Two-way analysis of variance indicated a significant difference in biomass among transects and a highly significant difference among sampling contours.

The application of multiple range testing revealed that transects O through Y with a biomass range of 500.4 to 638.6 mg/m^3 were significantly different than the much lower biomass level on transect M (353.2 mg/m^3). Likewise, biomass levels at the 3, 7 and 12 m sampling contours were significantly higher (569.4 to 646.9 mg/m^3) than levels found at the 15 and 20 m sampling contours (395.2 and 408.9 mg/m^3), respectively.

August 23 - The dominance of diatoms that was evident in February and May was succeeded by a dominance of Cryptophyta by August 23.

Cryptomonas sp comprised 68.5% of the phytoplankton biomass while another dinoflagellate, *Rhodomonas minuta*, made up 17.1% (Table 3-7). The blue-green algae (Cyanophyta) *Chroococcus sp* was third in dominance and made up 12.4% of the total biomass.

Mutual Information Analysis indicated that all phytoplankton samples on August 23 were similar enough to be grouped into one assemblage (group).

Group 1, dominated by *Cryptomonas sp*, was characteristic at each of 38 sampling points and resulted in a homogeneous phytoplankton community over the Wesleyville site [Table 3-10 (a and b)].

Biomass levels of *Cryptomonas sp* varied from 317 mg/m^3 to 1 307 mg/m^3. Mean sampling contour biomass levels showed an increase from 446.6 mg/m^3 at the 3 m contour to 965.4 mg/m^3 at the 15 m contour and dropped slightly to 882.6 mg/m^3 at the 20 m contour. Among transects, mean biomass levels varied from 537.2 mg/m^3 at transect Y to 1075.3 mg/m^3 at transect R.

TABLE 3-9

SPATIAL DISTRIBUTION OF PHYTOPLANKTON GROUPS AS DETERMINED BY MUTUAL INFORMATION ANALYSIS
MAY 12 - WESLEYVILLE GS 'A' - 1978

a

Depth Contour	TRANSECT M	O	P	Q	R	S	U	Y
3	1	1	1	1	1	1	1	1
7	1	1	2	1	1	1	1	2
12	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1
20	2	1	1	1	1	1	1	1

b

Species	% Composition Groups 1	2
Asterionella gracillima	65.29	33.40
Stephanodiscus binderanus	18.95	26.20
Melosira granulata	12.29	**38.20**
Ankistrodesmus falcatus	2.31	1.37
Scenedesmus bijuga	1.15	0.83

SPATIAL DISTRIBUTION OF DOMINANT SPECIES BIOMASS (mg/m^3)

c

Depth Contour	*Asterionella gracillima* TRANSECT M	O	P	Q	R	S	U	Y	Mean Sample Contour Bio
3	358	595	691	806	454	659	1030	582	646.9
7	461	691	550	608	1005	621	563	429	616.0
12	474	493	589	426	506	742	576	749	569.4
15	230	384	397	399	390	422	582	467	408.9
20	243	339	454	442	538	397	442	307	395.3
Mean Transect Biomass	353.2	500.4	536.2	536.2	578.6	568.2	638.6	506.8	527.3

TABLE 3-10

SPATIAL DISTRIBUTION OF PHYTOPLANKTON GROUPS AS DETERMINED BY MUTUAL INFORMATION ANALYSIS
AUGUST 23 - WESLEYVILLE GS 'A' - 1978

a

	TRANSECT							
Depth Contour	M	O	P	Q	R	S	U	Y
3	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1
12	1	1	1	1		1	1	1
15	1	1	1		1	1	1	1
20	1	1	1	1	1	1	1	1

b

	% Composition
	Group
Species	1
Cryptomonas sp	68.08
Rhodomonas minuta	15.92
Chroococcus sp	13.80
Scenedesmus bijuga	2.20

SPATIAL DISTRIBUTION OF DOMINANT SPECIES BIOMASS (mg/m^3)

c

	Cryptomonas sp								
	TRANSECT								
Depth Contour	M	O	P	Q	R	S	U	Y	Mean Sample Contour Bio...
3	275	1003	352	211	412	528	475	317	446.9
7	116	563	563	317	1443	581	792	845	652.5
12	1162	927	1056	704		862	893	28	791.0
15	986	1021	1179		1179	580	1091	722	965.4
20	1302	1003	542	1109	1267	563	581	774	862.6
Mean Transect Biomass	768.2	883.4	738.4	585.3	1075.3	622.8	767.4	537.2	743.6

Analysis of variance indicated no significant differences in biomass levels among transects, but a significant difference in biomass levels was found among sampling contours. Due to missing data at the 12 and 15 m sampling contours, only the 3, 7 and 20 m sampling contours could be analyzed. The results of multiple range testing indicated that biomass levels at the 3 and 7 m sampling contours were similar. Likewise, biomass levels at the 7 and 20 m sampling contours were similar. Biomass levels at the 3 and 20 m sampling contours were significantly different with the 20 m sampling contour biomass being approximately twice that of the 3 m sampling contour.

October 18 - *Cryptomonas sp* was the dominant species on this date as well and comprised 91.4% of the total phytoplankton biomass followed by *Rhoaomonas minuta* with 7.2% (Table 3-7).

Overall, the biomass of *Cryptomonas sp* on October 18 (2045 mg/m^3) was 2.7 times the biomass of the same species on August 23 (750 mg/m^3). Only one real phytoplankton group existed on this date as determined by Mutual Information Analysis, and this was dominated by *Cryptomonas sp* (91.3%)(Table 3-11). This high dominance of *Cryptomonas sp* was uniform at all sampling sites and was probably the result of a considerable amount of mixing due to autumn winds as well as fall turnover.

Biomass levels of *Cryptomonas sp* varied from 704 to 3696 mg/m^3. No significant differences in biomass levels were found either among transects or among sampling contours.

Comparison of Algal Composition and Biomass to Other Sites and Relation to Nutrient Levels

The seasonal change in dominance from diatoms in winter and spring to flagellates in summer and fall described above was also observed at Darlington in 1978 (Ontario Hydro Research Division Report No 80-387-K) and Pickering in 1975 and 1976 (Ontario Hydro Research Division Report No 80-226-K). At all three sites *Cryptomonas* was the dominant flagellate genus. The predominant diatoms were two species of *Stephanodiscus: S. niagarae* at Wesleyville and Darlington and *S. binderanus* at Pickering.

The surface biomass levels at Wesleyville in May and August, 1978 were similar to those observed in the same months at Darlington GS. By comparison, biomass of diatoms at BNPD in May, 1979 was twice that for Wesleyville in May, 1978 (Ontario Hydro Research Division Report No 82-107-K), while later in August, biomass levels at BNPD were one-fifth those in Wesleyville. Only the 5-10 times higher levels of soluble silica (the principal constituent of diatom cell walls) in May at BNPD suggested a relationship between chemical parameters and phytoplankton biomass. Although general associations have been made between increased nutrient enrichment and increased phytoplankton abundance (eg Schenk and Thompson, 1965) specific levels of algal biomass cannot be predicted from nutrient levels at any point in time. Complicating features are changes in nutritional requirements with changes

TABLE 3-11

SPATIAL DISTRIBUTION OF PHYTOPLANKTON GROUPS AS DETERMINED BY MUTUAL INFORMATION ANALYSIS
OCTOBER 18 - WESLEYVILLE GS 'A' - 1978

a

	TRANSECT							
Depth Contour	M	O	P	Q	R	S	U	Y
3	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	
12	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1

b

Species	% Composition Group 1
Cryptomonas sp	91.32
Rhodomonas minuta	7.30
Aphanizomenon flos-aquae	1.07
Scenedesmus bijuga	0.23
Ankristrodesmus falcatus	0.08

SPATIAL DISTRIBUTION OF DOMINANT SPECIES BIOMASS (mg/m³)

c

Depth Contour	*Cryptomonas sp* TRANSECT M	O	P	Q	R	S	U	Y	Mean Sample Con[illegible] Biomass
3	704	2570	1549	1654	3696	1866	1672	1250	[illegible]
7	2534	2218	2253	1373	2288	2288	1056		[illegible]
12	2077	2323	2288	2534	3274	2464	2042	1795	[illegible]
15	2006	1443	1690	1901	1901	1584	2112	2464	[illegible]
20	2147	2675	2147	2605	1390	2147	1866	1971	[illegible]
Mean Transect Biomass	1893.6	2245.8	1985.4	2013.4	2509.0	2069.8	1749.6	1870.0	[illegible]

82-456

in species composition, and rapid depletion of particular nutrients from high to limiting levels by the phytoplankton.

Vertical Distribution

The dominant diatom species on February 21 *(S. niagarae)* and May 12 *(A. gracillima)* had progressively greater biomass with increasing depth, whereas the dinoflagellate *Cryptomonas sp* showed the reverse trend on August 23 and October 18 (Figure 3-8). Even though *A. gracillima* showed an increase in biomass from the surface to the bottom on May 12, the total biomass level was greatest at mid-depth (1930 mg/m^3) and smaller at the surface and bottom depths (1050 and 1250 mg/m^3) respectively. On August 23 the total phytoplankton biomass was greatest at the surface (1650 mg/m^3) and least at mid-depth with 1210 mg/m^3.

3.3.2 Zooplankton

Rotifers

Appendix 3-10 contains a complete listing of the species and densities of zooplankton collected on four dates at Wesleyville in 1978.

Seventeen species of rotifers were identified from the Wesleyville GS 'A' samples (Table 3-12), of which *Synchaeta spp* (35.9%), *Keratella cochlearis* (27.8%), *Polyarthra spp* (20.5%) and *Notholca squamula* (8.0%) collectively made up 93.1% of the total numbers collected.

February 21 - *Notholca squamula* and *Keratella cochlearis* were effectively co-dominant on this date, making up 35.0 and 30.3% of the total rotifer densities, respectively (Table 3-12).

Mutual Information Analysis identified three distinct groups [Table 3-13(a)]. Group 1, dominated by *Notholca squamula* (79.2%) was present at three spar locations, while Group 2 dominated by *K. cochlearis* (65.7%), was found at eight spar locations. One sample, comprised entirely of *Synchaeta spp*, made up Group 3 and was present at the 15 m sampling contour on transect O.

Densities of *Notholca squamula* ranged from 0.0 to 660 organisms/m^3 [Table 3-13 (c)]. When the density spatial distribution was subjected to two-way analysis of variance, no significant differences were found among transects. However, a large significant difference was found among sampling contours (Appendix 3-11). The nearshore (3 m) densities of *N. squamula* were significantly larger than densities at the 7 or 15 m sampling contours.

May 12 - *Synchaeta spp* was overwhelmingly the dominant rotifer on this date and made up 96.6% of the total rotifer densities (Table 3-14). This dominance of *Synchaeta spp* resulted in a very homogeneous species distribution of rotifers over the entire sampling site, and all samples were grouped into the same assemblage by Mutual Information Analysis [Table 3-14 (a)].

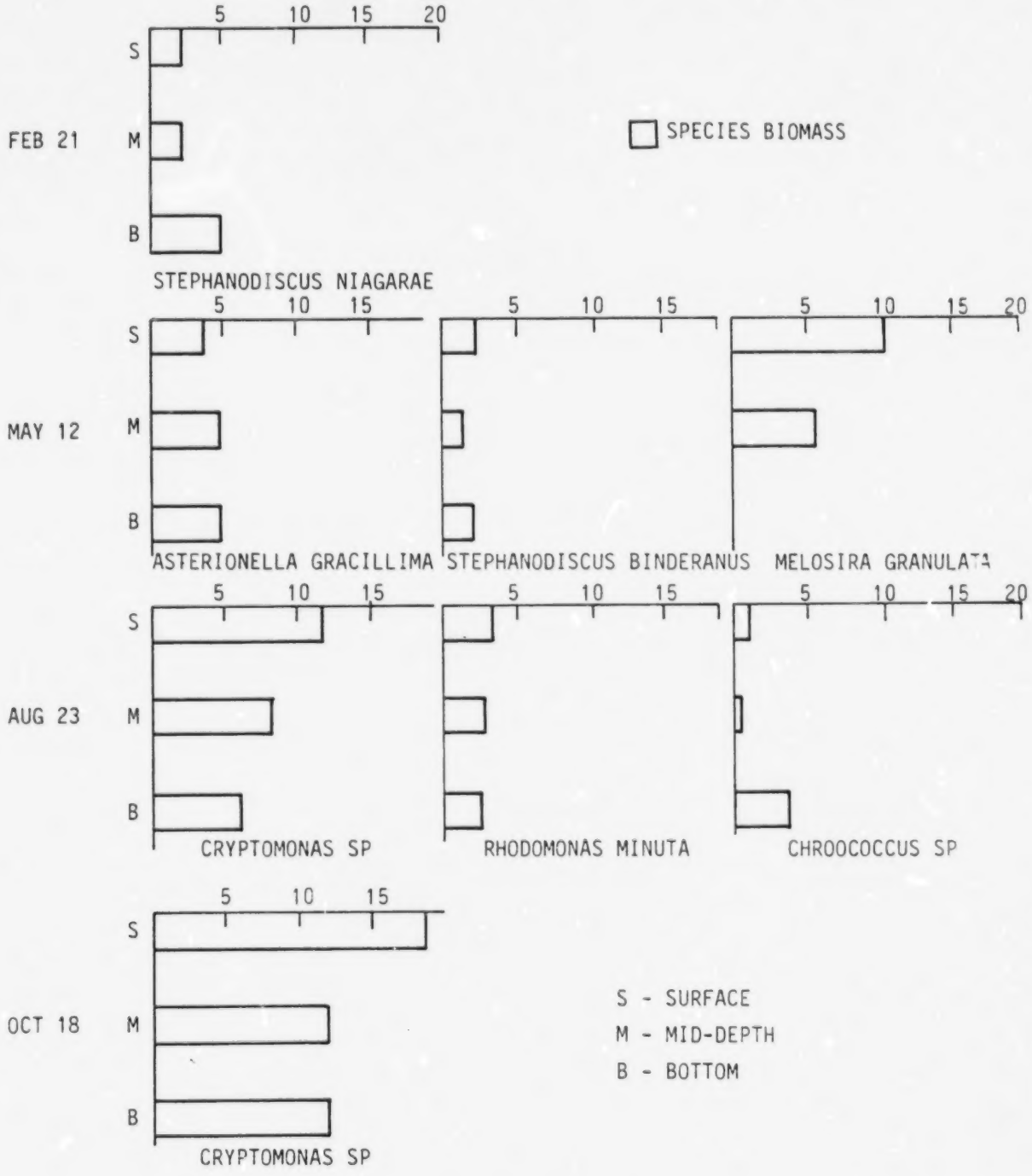


FIGURE 3-8

TOTAL AND DOMINANT SPECIES PHYTOPLANKTON BIOMASS IN SURFACE, MID-DEPTH AND BOTTTOM SAMPLES COLLECTED AT SPAR R-47 WESLEYVILLE GS A - 1978
PHYTOPLANKTON BIOMASS (mg m^{-3} X 10^2)

TABLE 3-12

PERCENT COMPOSITION OF ROTIFERS
WESLEYVILLE GS 'A'- 1978

Species	Feb 21	May 12	Aug 28	Oct 18	Year
1. *Synchaeta spp*	17.2	96.6	6.2	23.4	35.9
2. *Keratella cochlearis*	30.3	0.5	30.0	50.3	27.9
3. *Polyarthra spp*	2.8	0.2	57.9	21.4	20.5
4. *Notholca squamula*	35.0	0.5	0.0	0.0	8.9
5. *Kellicottia longispina*	13.4	0.5	0.5	1.0	3.6
6. *Ploesoma spp*	0.0	0.0	2.2	0.7	0.7
7. *Keratella quadrata*	1.4	0.0	0.8	0.1	0.5
8. *Chromogaster ovalis*	0.0	1.7	0.0	0.0	0.4
9. *Conochilus unicornis*	0.0	0.0	1.6	0.0	0.4
10. *Trichocerca porcellus*	0.0	0.0	0.0	1.2	0.3
11. *Filinia terminalis*	0.0	0.0	0.8	0.0	0.2
12. *Trichocerca multicrinis*	0.0	0.0	0.6	0.0	0.1
13. *Asplanchna spp*	0.0	0.0	0.01	0.2	-
14. *Bipalpus hudsoni*	0.0	0.0	0.01	0.2	-
15. *Notholca foliacea*	0.0	0.03	0.00	0.02	-
16. *Branchionus angularis*	0.0	0.0	0.01	0.0	-
17. *Keratella hiemalis*	0.0	0.0	0.01	0.0	-

TABLE 3-13

SPATIAL DISTRIBUTION OF ROTIFER GROUPS
FEBRUARY 21
WESLEYVILLE GS 'A' - 1978

a

Depth Contour	TRANSECT M	O	P	Q	R	S	U	Y
3	2	1		1		2		
7	2	2		2		2		
12								
15	2	3		2	1			
20								

b

Species	% COMPOSITION GROUPS 1	2	3
Notholca squamula	79.17	7.14	0.00
Keratella cochlearis	0.00	65.63	0.00
Synchaeta spp	6.25	10.24	100.00
Kellicottia longispina	2.08	16.24	0.00
Polyarthra spp	10.42	0.00	0.00
Keratella quadrata	2.08	0.00	0.00

SPATIAL DISTRIBUTION OF DOMINANT
SPECIES DENSITIES (NOS/m³)

c

Depth Contour	*Notholca squamula* TRANSECT M	O	P	Q	R	S	U	Y	Mean Depth Contour Densities
3	53	372		660		93			294.5
7	0	0		0		0			0.0
12									
15	0	0		0	198	0			49.5
20									
Mean Transect Densities	17.7	124.0		220.0		31.0			114.7

TABLE 3-14

SPATIAL DISTRIBUTION OF ROTIFER GROUPS
MAY 12
WESLEYVILLE GS 'A' 1978

a

Depth Contour	TRANSECT							
	M	O	P	Q	R	S	U	Y
3	1	1	1	1	1	1	1	1
7	1	1	1	1	1	1	1	1
12	1	1	1	1	1	1	1	1
15	1	1	1	1	1	1	1	1
20	1	1	1	1	1	1	1	1

b

Species	GROUP 1
Synchaeta spp	94.45
Chromogaster ovalis	1.30

SPATIAL DISTRIBUTION OF DOMINANT
SPECIES DENSITIES NOS. M-Y

c

Depth Contour	*Synchaeta* spp TRANSECT								Mean Depth Contour Densities
	M	O	P	Q	R	S	U	Y	
3	69550	17810	12480	115310	15860	9750	23790	8450	34125
7	17290	3510	2860	5950	4680	3640	1300	9360	6076
12	7670	1690	780	5460	3380	2080	650	2080	2974
15	3640	2010	2340	260	3250	1040	1040	910	1929
20	1820	2340	1560	1690	2860	130	1040	650	1511
Mean Transect Densities	13994	5486	4004	25740	6006	3320	5564	4290	9302

Densities of *Synchaeta spp* varied from 130 to 115 330 organisms/m^3. Mean densities showed a progressive drop with distance from the shore. Analysis of variance indicated that significant differences in densities of *Synchaeta spp* existed, both among transects and among sampling contours. Densities along the 3 m sampling contour (mean density: 34 125 organisms/m^3) were significantly higher than densities at the 7 and 12 m sampling contours, while offshore densities at the 12, 15 and 20 m sampling contours were significantly lower than either the 3 or 7 m sampling contour densities.

The mean densities of *Synchaeta spp* on transects S and U (3228 and 5564 organisms/m^3) were found to be significantly lower than the mean densities on transect M and Q (19 994 and 25 740 organisms/m^3).

August 23 - *Polyarthra spp* was the dominant species found at all sampling locations on this date. Group 1, identified by Mutual Information Analysis, with a clear dominance of *Polyarthra spp* (63.9%), was found at all 3 m sampling contour sites as well as some offshore locations, primarily on the four easterly transects. Subgroup 1 (a) was characterized by a lessening of the dominance of *Polyarthra spp* (46.9%) and an increased prominence of both *Keratella cochlearis* (33.1%) and *Synchaeta spp* [Table 3-15 (a)]. This subgroup was most prominent at the 7, 12, 15 and 20 m sampling contours on transects M, O, P, Q and R.

Two-way analysis of variance indicated that no significant differences in densities of *Polyarthra spp* were found among the sampling contours. Transect R, with a mean density of 49 840 organisms/m^3, was found to be significantly higher than transect O with a mean density of *Polyarthra spp* of 9160 organisms/m^3.

October 18 - *Keratella cochlearis*, which was second in importance primarily at offshore locations on August 23, was the dominant species at offshore locations on October 18 [Group 1, Table 3-16 (a)]. As determined by Mutual Information Analysis *Polyarthra spp*, the dominant species at nearshore locations on August 23, was superseded by *Keratella cochlearis* to the point where they were co-dominant [Group 1 (a)].

Overall, *K. cochlearis*, with a per cent composition of 50.3% was the dominant rotifer on October 18, with densities that ranged from 47 000 to 173 000 organisms/m^3.

Analysis of variance revealed that nearshore (3 m) densities of *K. cochlearis* with a mean of 55 250 organisms/m^3 was significantly lower than densities found at all other sampling depth contours with a range of 93 750 organisms/m^3 (7 m) to 126 750 organisms/m^3 (15 m).

Transects O and R, with mean densities of 119 000 and 122 000 organisms/m^3, were found to be significantly different than transect Q with a mean density of only 66 000 organisms/m^3.

TABLE 3-15

SPATIAL DISTRIBUTION OF ROTIFER GROUPS
[illegible]
[illegible] GS 'A' [illegible]

a

Depth Contour	M	O	P	Q	R	S	U	Y
	TRANSECT							
3	1	1	1	1	1	1	1	1
7	1a	1a	1	1	1a	1	[illegible]	1
12	1a	1a	1a	1a	1	1	1a	1a
15	1a	1a	1a	1a	1a	1	1	1a
20	1a	1a	1a	1a	1a	1	1	1

b

Species	GROUPS 1	1a
Polyarthra spp	63.37	16.27
Keratella cochlearis	23.81	33.05
Synchaeta spp	5.55	23.32
Ploesoma spp	3.90	2.40
Conochilus unicornis	0.04	2.15

SPATIAL DISTRIBUTION OF DOMINANT SPECIES DENSITIES, NOS/m³

c

Depth Contour	M	O	P	Q	R	S	U	Y	Mean Depth Contour Densities
	Polyarthra spp TRANSECT								
3	17100	15000	11200	23400	59100	10600	14900	[illegible]	[illegible]
7	7200	6200	42600	20100	36800	7200	9600	31900	[illegible]
12	11100	4500	42000	9600	19000	29700	[illegible]	[illegible]	[illegible]
15	7800	7800	20400	46200	74100	178300	6000	11400	[illegible]
20	2500	2400	11100	19400	33900	102300	9600	22100	[illegible]
Mean Transect Densities	9160	7180	29560	23740	49340	67020	11340	23160	27625

TABLE 3-16

SPATIAL DISTRIBUTI[illegible] OF [illegible] [illegible]ROUPS

[illegible]

[illegible] GS 'A' [illegible]

a

October 18

Depth Contour	M	O	P	Q	[illegible]	S	U	Y
				T R A N S E C T				
3	1a	1a	1a	1a	a	1a	1a	1a
7	1	1	1	1		1a	1a	1a
12	1	1	1	1		1	1a	1
15	1	1	1	1		1	1	1
20	1	1	1	1		1	1	1

b

		[illegible]sition G R O U P S
Species	1	1a
[illegible]	56.96	35.04
[illegible]	21.01	28.24
[illegible]	15.64	32.39
[illegible]	2.16	0.97
[illegible]	1.41	0.40

SPATIAL DISTRIBUTION OF

DOMINANT SPECIES DENSITIES [illegible]

c

Depth Contour	M	O	P	Q	R	S	U	Y	[illegible]
				T R A N S E C T					
3	67000	66000	52000	47000	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7	133000	92000	102000	62000	[illegible]	51000	57000	121000	[illegible]
12	95400	120000	85000	79000	[illegible]	110000	165000	[illegible]	[illegible]
15	149000	172000	107000	63000	[illegible]	120000	143000	[illegible]	[illegible]
20	117600	144000	128000	83000	[illegible]	147000	63000	[illegible]	[illegible]
Mean Transect Densities	112400	119000	94500	66000	[illegible]	95600	91800	[illegible]	[illegible]

Crustacean Zooplankton (Excluding Copepod Nauplii)

Appendix 3-11 contains complete listings and densities of the crustacean zooplankton collected on four dates at Wesleyville GS 'A' in 1978.

In total, 20 species of crustacean zooplankton were collected at the Wesleyville GS 'A' site (Table 3-17). Exclusive of copepod nauplii, the cladoceran *Bosmina longirostris* and the copepod *Cyclops bicuspidatus thomasi* were co-dominant over the entire year and made up 33.1% and 31.9% of the crustacean zooplankton densities respectively (Table 3-17). Calanoid copepodites and *Diaptomus oregonensis* made up 14.3 and 7.8% of the crustacean zooplankton community, respectively.

February 21 - *Cyclops bicuspidatus thomasi* was the dominant crustacean zooplankter on this date and made up 63.5% of the crustacean zooplankton community.

Two groups and one subgroup were identified by Mutual Information Analysis [Table 3-18 (a)]. Group 1, dominated by *C. b. thomasi* (84.8%), was found at 10 of a total of 13 spar locations. A subgroup [Group 1 (a)] had a lessened degree of dominance by *C. b. thomasi* (44.1%) coupled with an increased prominence of *Bosmina longirostris* (25.0%), and was found at only two spar locations. At one sampling site, at the 15 m contour on transect Q, calanoid copepodites made up 100% of the sample (Group 2).

Densities of *C. b. thomasi* were low at all spar locations and ranged from 0 to 146 organisms/m^3 [Table 3-18 (c)]. The results of a two-way analysis of variance indicated that there were no significant differences in the distribution of *C. b. thomasi*, either among transects or among sampling contours [Appendix 3-11 (c)].

May 12 - Zooplankton densities on this date were low. The majority of the offshore sampling contours were dominated by the calanoid copepodites (Group 1) on May 12 [Table 3-19 (b)]. Most 3 and 7 m sampling contours were characterized by a dominance of either *C. b. thomasi* (Group 2) or *Bosmina longirostris* (Group 3).

Densities of calanoid copepodites were low at most spar locations and ranged from 0 to 130 organisms/m^3.

Analysis of variance indicated that nearshore (3 m contour) densities of calanoid copepodites (mean density of 9.8 organisms/m^3) were significantly lower than densities found on the other four sampling contours. No significant differences in calanoid copepodite densities were noted among transects.

August 23 - The cladoceran *Bosmina longirostris* was the dominant zooplankter on this date and made up 80.3% of the total crustacean zooplankton densities, with cyclopoid *Cyclops b. thomasi* being second in importance (9.3%).

TABLE 3-17

PER CENT COMPOSITION OF CRUSTACEAN ZOOPLANKTON
EXCLUDING NAUPLII
WESLEYVILLE GS 'A' - 1978

Species	Feb 21	May 12	Aug 23	Oct 18	Year
1. *Bosmina longirostris*	4.0	4.3	80.3	43.7	33.1
2. *Cyclops b thomasi*	63.5	21.9	9.3	32.9	31.9
3. *Calanoid copepodites*	16.2	38.3	0.3	2.3	14.3
4. *Diaptomus oregonensis*	9.0	22.2	0.0	0.0	7.8
5. *Tropocyclops prasinus*	1.6	1.5	0.03	11.1	3.5
6. *Daphnia galeata mendotae*	0.0	0.0	7.3	4.1	2.9
7. *Eubosmina coregoni*	2.5	0.7	0.3	3.4	1.7
8. *Diaptomus sicilis*	2.4	3.6	0.00	0.00	1.5
9. *Limnocalanus macrurus*	0.8	2.2	0.0	0.01	0.8
10. *Ceriodaphnia spp*	0.0	0.0	1.7	1.3	0.7
11. *Acanthocyclops vernalis*	0.0	2.4	0.0	0.0	0.6
12. *Eurytemora affinis*	0.0	0.5	0.5	1.0	0.5
13. *Chydorus spp*	0.0	1.2	0.02	0.05	0.3
14. *Cyclopoid copepodites*	0.0	0.7	0.0	0.0	0.2
15. *Diaptomus ashlandi*	0.0	0.24	0.0	0.0	-
16. *Diaptomus sicilioides*	0.0	0.24	0.0	0.0	-
17. *Holopedium gibberum*	0.0	0.0	0.01	0.22	-
18. *Polyphemus pediculus*	0.0	0.0	0.2	0.0	-
19. *Mesocyclops edax*	0.0	0.0	0.0	0.02	-
20. *Diaptomus minutus*	0.0	0.0	0.0	0.01	-

TABLE 3-18

SPATIAL DISTRIBUTION OF [illegible] GROUPS
FEBRUARY [illegible]
WESLEYVILLE GS 'A' [illegible]

a

Depth Contour	TRANSECT M	O	P	Q	S	U	V
3	1	1		1a	1		
7	1a	1		1	1		
12							
15	1	1		2	1		
20							

b

Species	GROUPS 1	[illegible]	2
Cyclops b. thomasi	84.76	44.[illegible]5	0.00
Calanoid copepodites	1.78	6[illegible]	100.00
[illegible] oregonensis	0.89	6[illegible]	0.00
Bosmina longirostris	1.97	25.[illegible]	0.00
Eubosmina coregoni	2.25	5[illegible]	0.00

SPATIAL DISTRIBUTION OF DOMIN[illegible]
SPECIES DENSITIES [illegible]

c

Depth Contour	*Cyclops b. thomasi* TRANSECT M	O	P	Q	R	S	U	V	Mean Depth Contour Densities
3	13	146		40		13[illegible]			[illegible]
7	40	40		93		93			66.5
12									
15	53	80		0	27	6[illegible]			45.2
20									
Mean Transect Densities	35.3	88.7		44.3		97.[illegible]			64.[illegible]

TABLE 3-19

SPATIAL DISTRIBUTION OF CRUSTACEAN ZOOPLANKTON GROUPS
MAY 12
WESLEYVILLE GS 'A' 1979

a

	TRANSECT							
Depth Contour	M	O	P	Q	R	S	U	Y
3	2	3	2	3		3	2	1
7	2		1	1	1	1	2	2
12	2	1	5	1	[illegible]	1	1	1
15	1	1	1	1	[illegible]	2	1	1
20	1	1	1	5	1	1	1	1

b

	GROUPS		
Species	1	2	3
Calanoid copepodites	80.1	23.17	17.78
Diaptomus oregonensis	6.7[illegible]	9.53	9.31
Cyclops b. thomasi	9.7[illegible]	56.82	15.92
Bosmina longirostris	1.0[illegible]	0.70	38.33
Diaptomus sicilis	3.[illegible]	0.50	8.[illegible]

SPATIAL DISTRIBUTION OF DOMINANT
SPECIES DENSITIES (NOS/m³)

c

	Calanoid copepodites								
	TRANSECT								
Depth Contour	M	O	P	Q	R	S	U	Y	Mean Depth Contour Densities
3	13	1[illegible]	13	0	13	0	13	13	9.8
7	39	78	13	52	91	26	13	13	40.6
12	13	39	13	52	91	78	39	52	47.1
15	26	26	65	52	65	26	13	13	35.3
20	130	52	26	[illegible]	65	26	39	52	50.4
Mean Transect Densities	4[illegible]	41.6	26.0	[illegible]	6[illegible]	[illegible]	23.4	28.6	36.7

Only two distinct groups of crustacean zooplankton were evident on August 23 as determined by Mutual Information Analysis with Group 1, dominated by *B. longirostris* (65.8%), being virtually ubiquitous across the entire sampling grid yielding a very homogeneous distribution. Group 2, dominated by *Cyclops b. thomasi* (52.3%), with *B. longirostris* of secondary importance (20.7%), was found at only four of the total 40 spar locations. Three of these four spars dominated by Group 2 were concentrated at offshore locations on transects U and Y (Table 3-20).

Densities of *B. longirostris* on transects R and S, with mean values of 7448 and 9052 organisms/m^3, were found to be significantly higher than densities at all other transects. No significant differences in densities of *B. longirostris* were evident among sampling contours.

October 18 - The inshore and offshore dominance of *B. longirostris*, that was evident on August 23, was reduced primarily to an inshore dominance on October 18 [Table 3-21 (a)]. Group 1, as identified by Mutual Information Analysis, with a 60.9% dominance of *B. longirostris*, was present at all spars on the 3 m sampling contour and extended further offshore on transects R, S and U. The balance of the offshore sampling locations were characterized by a dominance of *Cyclops b. thomasi* (Group 2).

The overall mean density of *B. longirostris* on October 18 (12 936 organisms/m^3) was 4.4 times the mean density for this species on August 23 (2966 organisms/m^3).

Analysis of variance revealed that nearshore densities of *B. longirostris*, with a mean of 23 850 organisms/m^3, was significantly higher than the four offshore sampling contours with a mean density range of 6170 (20 m) to 17 690 organisms/m^3 (7 m). Transect S with a mean density of 24 320 organisms/m^3 was not significantly different than transects M, O, P, Q, R and U, but was found to be significantly different from transect Y with a mean density of 7456 organisms/m^3.

Significance of Alongshore Variation in Zooplankton Abundance

The distribution of dominant rotiferan or crustacean zooplankters in some months suggested concentration in the vicinity of station construction activities. However, the location of concentrations at 3 m depth or greater should be considered fortuitous, since displacement of planktonic organisms by alongshore currents in exposed areas such as Wesleyville would be too rapid to allow local effects to be demonstrated. Hydrological investigations at Wesleyville in 1973 and 1974 indicated that average alongshore currents (excluding NNE to NNW and SSE to SSW) near bottom ranged from 8-15 cm/s at 7 m and from 3 to 13 cm/s at 12 m (Ontario Hydro Design and Development Division Report, 1977). Currents reached a maximum of 47 cm/s.

Surface currents at 3, 10 and 20 m depth contours were measured at Wesleyville on August 1, September 20, November 15 and December 18, 1978 and May 18, and July 4, 1979 (Ontario Hydro

TABLE 3-20

SPATIAL DISTRIBUTION OF [illegible] GROUPS
AUGUST 2[illegible]
WESLEYVILLE GS 'A' 197[illegible]

a

Depth Contour	M	O	P	Q	[illegible]	S	U	Y
3	2	1	1	1	[illegible]	1	1	1
7	1	1	1	1	[illegible]	1	1	1
12	1	1	1	1	[illegible]	1	1	1
15	1	1	1	1	[illegible]	1	2	2
20	1	1	1	1	[illegible]	1	1	2

b

Species	GROUPS 1	2
Bosmina longirostris	65.[illegible]	20.66
Cyclops bathamasi	19.[illegible]	52.30
Daphnia galeata mendotae	5.[illegible]	4.36
Ceriodaphnia sp.	3.[illegible]	5.96
Eurycercus affinis	2.[illegible]	1.75

SPATIAL DISTRIBUTION OF DOMINA[illegible]
SPECIES DENSITIES [illegible]

c

Depth Contour	Bosmina longirostris TRANSECT M	O	P	Q	R	S	U	Y	Mean Depth Contour Densities
3	180	4140	9740	1760	5000	21[illegible]	360	500	[illegible]
7	140	1780	780	840	10520	1260	260	1860	2180
12	600	960	3840	560	15600	480	420	540	2803
15	300	500	500	1000	2340	36000	40	400	5385
20	380	360	960	580	3700	342	820	460	1035
Mean Transect Densities	332	1548	3164	948	7448	9000	460	752	2966

TABLE 3-21

SPATIAL DISTRIBUTION OF CRUSTACEAN ZOOPLANKTON GROUPS
OCTOBER 1[illegible]
WESLEYVILLE GS 'A' 1978

a

Depth Contour	M	O	P	Q	R	S	U	Y
	TRANSECT							
3	1	1	1	1	1	1	1	1
7	2	2	2	2	1	1	1	2
12	2	2	2	1	2	1	1	2
15	2	2	2	2	2	1	2	2
20	2	2	2	2	2	2	2	2

b

Species	GROUPS 1	GROUPS 2
Bosmina longirostris	60.87	24.84
Cyclops b. thomasi	22.47	44.52
Tropocyclops prasinus	8.20	14.52
Daphnia galeata mendotae	2.63	4.92
Eubosmina coregoni	2.07	5.20
Calanoid copepodites	0.86	3.41

SPATIAL DISTRIBUTION OF DOMINANT
SPECIES DENSITIES (NO[illegible] m)

c

Depth Contour	Bosmina longirostris TRANSECT M	O	P	Q	R	S	U	Y	Mean Depth Contour Densities
3	9200	18400	20480	13760	18560	32400	33600	24000	[illegible]
7	7200	6560	2240	5440	12800	36480	72480	6240	19680
12	4160	4800	8320	9280	19760	25280	5280	2720	9200
15	7680	9600	8000	5920	4400	14240	2880	1440	6780
20	3360	7040	9760	8480	3520	12800	1520	2880	6170
Mean Transect Densities	6320	10230	9760	8576	10624	24320	23152	7456	12936

Research Division Reports 79-300-K and 79-516-K). Surface current velocities ranged from <1 to 19 cm/s at 3 m, 3 to 28 cm/s at 10 m and 3-40 cm/s at 20 m. At a normal alongshore current velocity of 10 cm/s, planktonic organisms could be transported from one transect to another (500 m) in less than 2 hours, or from one end of the sampling grid to the other (7 km) in less than 24 hours.

It is possible that concentrations of zooplankton are associated with abundant prey organisms in the same water mass. Since the greatest differences in abundance were usually found inshore, the inshore distributions of the dominant rotiferan zooplankton, the crustacean zooplankton and the phytoplankton were compared (Table 3-22). In the majority of cases (two-thirds) relatively high crustacean zooplankton density was associated with relatively high phytoplankton biomass. No other consistent similarities or dissimilarities in the distributions of the three plankton groups were apparent.

Seasonal Variation in Zooplankton Densities (Including Copepod Nauplii)

The seasonal changes in abundance of three zooplankton groups, the rotifers, copepod nauplii and crustacea (excluding nauplii) are shown in Table 3-23. Total zooplankton densities increased approximately 200 times between February 21 (1400/m^3) and October 18 (240 000/m^3) due largely to the rapid increase in abundance of rotifers. Copepod nauplii were relatively low in abundance in February and August (approximately 1000/m^3), and highest in October (approximately 2300/m^3). Other crustacean zooplankters were relatively scarce in both February and May (80/m^3) but reached 8400/m^3 in October.

The low numbers of plankton found in February were similar to those observed in that month at Darlington (Ontario Hydro Research Division Report No 80-387-K). They suggest a poor food supply for plankton-feeding fishes, including any newly-emerged larvae of coregonids if they were present as a result of advancement of hatch by a thermal discharge.

Vertical Distribution

The vertical distribution of the dominant rotifer and crustacean zooplankton species taken at a single sampling point (intake) is shown in Figure 3-9. *Notholca squamula* had its highest densities (198 organisms/m^3) in surface and bottom samples, while at mid-depth, density was approximately one-half (93 organisms/m^3) that of the surface and bottom densities. *Keratella cochlearis* was found only in the mid-depth sample while the cyclopoid, *Cyclops b. thomasi*, had the highest density in the bottom water.

Both *Synchaeta spp* (May 12) and *Polyarthra spp* (August 23) were most abundant at mid-depth with densities of 7280 and 176 400 organisms/m^3, respectively. Likewise, *Keratella cochlearis*

TABLE 3-22

COMPARATIVE INSHORE DISTRIBUTION OF DOMINANT PLANKTON SPECIES BY RANK OF ABUNDANCE
(1 = LOWEST ABUNDANCE)

Date	Plankton	TRANSECT							
		M	O	R	Q	R	S	U	Y
Feb 21	Phyto	3	4	-	1	-	2	-	-
	Zoo - Rotifer	1	3	-	4	-	2	-	-
	Zoo - Crustacean	1	4	-	2	-	3	-	-
May 12	Phyto	1	4	6	7	2	5	8	3
	Zoo - Rotifer	7	5	3	2	4	2	6	1
	Zoo - Crustacean*	8	3	7	6	1	3	3	1
Aug 23	Phyto	2	8	4	1	5	7	6	3
	Zoo - Rotifer	4	2	1	6	8	3	5	7
	Zoo - Crustacean	1	6	8	4	7	5	3	2
Oct 18	Phyto	1	7	3	4	8	6	5	2
	Zoo - Rotifer	7	6	4	2	5	8	1	2
	Zoo - Crustacean	1	8	4	2	3	6	7	5

*_Cyclops b. thomasi_, dominant nearshore.

TABLE 3-23

MEAN DENSITIES (#/m^3) AND PER CENT COMPOSITION
OF ROTIFERS AND CRUSTACEAN ZOOPLANKTON (SURFACE SAMPLES)
WESLEYVILLE GS 'A' - 1978

	February 21		May 12		August 23		October 18	
	Densities	%	Densities	%	Densities	%	Densities	%
Rotifers	321	22	9 601	62	47 228		198 700	
Copepod Nauplii	1 018	71	5 654	37	1 350		2 300	
Other Crustacean Zooplankton	86	6	82	1	4 248		8 400	
TOTAL	1 425		15 337		52 826		209 400	

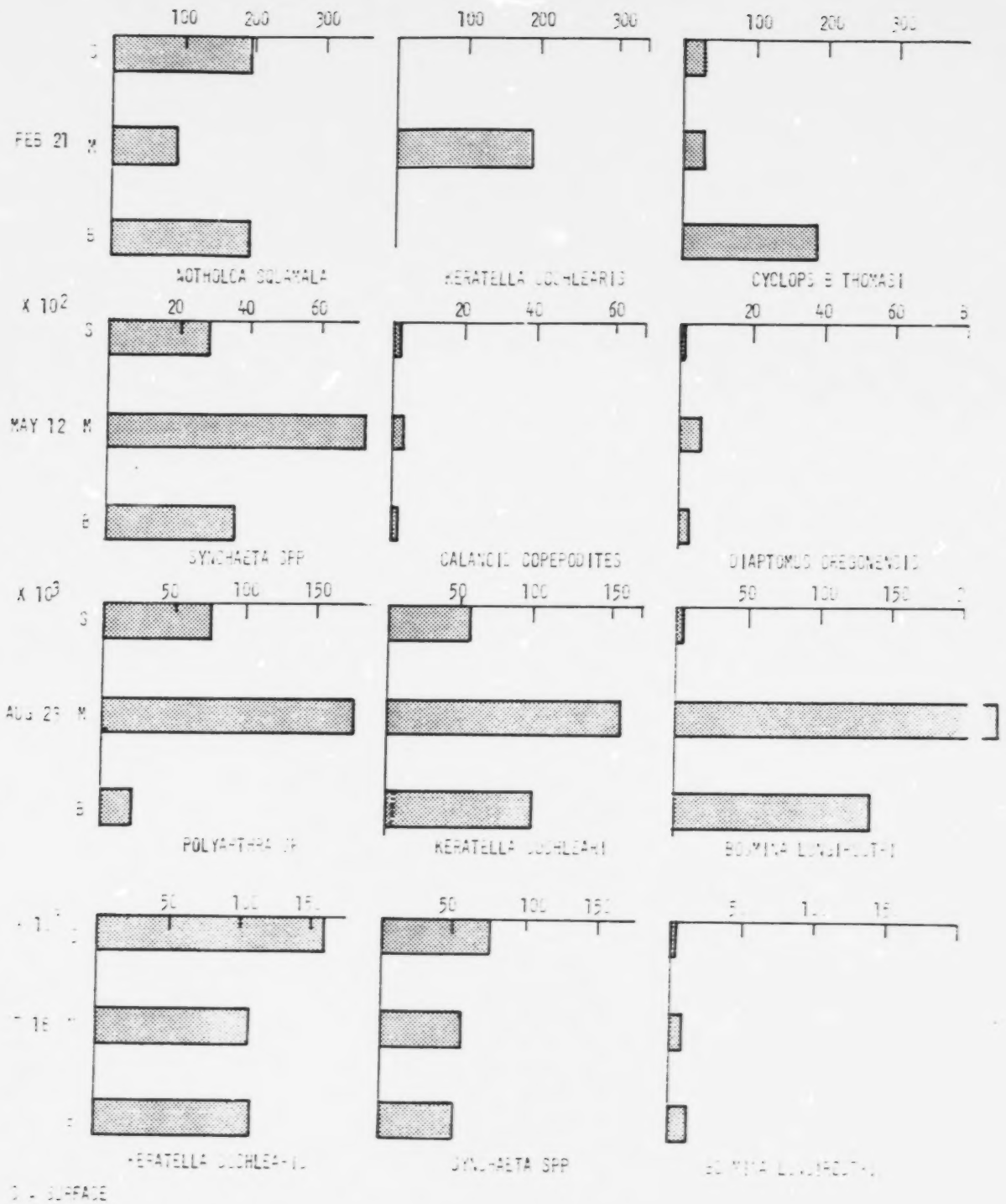


FIGURE 3-9

VERTICAL DISTRIBUTION OF DOMINANT ZOOPLANKTON
IN SAMPLES COLLECTED AT SPAR R-47
WESLEYVILLE GS A - 1978

and *Bosmina longirostris* were most abundant at mid-depth on August 23. *Bosmina longirostris* were exceedingly sparse in surface waters on August 23.

The vertical distributions of *K. cochlearis*, *Synchaeta spp* and *B. longirostris* on October 18 were virtually homogeneous from the surface to the bottom. Densities of *K. cochlearis* ranged from 161 000 organisms/m^3 (surface) to 110 400 organisms/m^3 at the bottom. *Synchaeta spp* abundances ranged from 72 000/m^3 at the surface to 50 000/m^3 at the bottom. The homogeneity in vertical distribution of these organisms may have been the result of wind-induced circulation of the water column resulting in isothermal conditions.

3.4 Zoobenthos

3.4.1 Synoptic Survey of Macrobenthic Community

The three collections were carried out between June 13-20, August 29-31, and October 2-23. The variations in days involved are a reflection of weather conditions.

During the sampling period, dredging was taking place adjacent to Wesleyville GS on a continuing basis, and blasting generally occurred twice daily in between transects R and Q. Poor visibility, due to suspended silt, persisted throughout the sampling periods. Considerable silt deposition was evident between transects P and S, particularly on the lee side of the artificial pier.

Depths of 12 m or less were sampled by vacuum dome operated by SCUBA divers. The 15 m depth was sampled by ponar dredge wherever possible. Lack of some samples due to inability to enclose material with the ponar jaws can be attributed to the presence of large stones, bedrock or perhaps hard-pan clay. Due to the extremely heterogeneous bottom and shifting of finer substrates, the locations at which no samples were obtained were not consistent from month to month.

In the undisturbed areas of the sampling grid the substrate appeared to be very temporally unstable, characterized by shifting sand lenses which differed in size, shape, and location during every sampling period.

Detailed lists of the benthic organisms which occurred in the June, August and October vacuum and ponar dredge samples are given in Appendix 3-12. The zoobenthic community at Wesleyville was comprised of ten taxonomic groups dominated by Diptera in terms of both number of species and per cent composition (47.0%) (Table 3-24). Oligochaeta were second in numerical importance (27.6%) followed by Mollusca (11.6%), and Amphipoda (7.9%). Other groups sampled in very low numbers included the Acarina, Trichoptera, Isopoda, Hirudinea, Decapoda and Lepidoptera.

TABLE 3-24

PERCENT COMPOSITION AND MEAN DENSITIES (NUMBERS/m^2)
OF MACROINVERTEBRATE ORDERS
WESLEYVILLE 'A' GS - 1978

	June		August		October		Year	
	Mean Density (#/m^2)	%	Mean Density (#/m^2)	%	Mean Density (#/m^2)	%	Mean Density (#/m^2)	%
Diptera	211.4	65.7	122.9	43.2	146.3	34.7	160.1	47.0
Oligochaeta	44.5	13.8	112.8	39.7	125.5	29.8	93.9	27.6
Mollusca	11.9	3.7	34.6	12.2	74.0	17.6	39.5	11.6
Amphipoda	32.1	10.0	10.9	3.8	39.0	9.3	27.0	7.9
Acarina	9.1	2.8	1.7	0.6	16.2	3.8	8.8	2.6
Trichoptera	2.7	0.8	0.2	0.1	17.3	4.1	6.5	1.9
Isopoda	9.1	2.8	1.1	0.4	2.3	0.5	4.1	1.2
Hirudinea	0.4	0.1	0.2	0.1	0.4	0.1	0.3	0.1
Decapoda	0.4	0.1	0.0	0.0	0.0	0.0	0.1	-
Lepidoptera	0.0	0.0	0.0	0.0	0.2	0.0	0.1	-
Total Densities	321.6		284.2		421.2		340.4	
Spars Sampled	37		38		35			

A total of 47 genera were identified in the benthic fauna, of which 24 belong to the order Diptera. Diptera, primarily chironomidae, was the dominant order on each of the three sampling dates. *Heterotrissocladius hirtapex* and *Thienemanniella* (group) together made up approximately 29% of the total number of chronomids. Oligochaeta were represented by three families: Lumbriculidae, Tubificidae and Naididae. Of the six genera identified, *Nais pardalis* and *Stylaria lacustris* together represented 28.6% of the total Oligochaeta. The bivalves *Pisidium sp* and *Pisidium supinum* were the dominant species of molluscs. *Hyalella*, *Gammarus* and *Pontoporeia* were the genera that represent the Amphipoda.

Unidentified members of the oligochaete families Tubificidae (9.7%), Naididae (1.0%) and Lumbriculidae (5.2%) contributed a total of 15.9% to the total number of organisms collected.

The genera comprising more than 1% of the total benthos are listed in order of their importance in Table 3-25. Of the 25 species listed, 12 were chironomids, 4 oligochaetes and 5 were molluscs.

Three chironomids, *Heterotrissocladius hirtapex*, *Thienemanniella* (group) and *Diercteniipes sp* were the most dominant and comprised 8.1, 5.7 and 4.1% of the total zoobenthos sampled respectively. Two oligochaetes, *Nais pardalis* (4.0%) and *Stylaria lacustris* (3.8%) were next in order of dominance. The dominant amphipod was *Hyalella azteca* (3.7%) while the dominant mollusc was the bivalve *Pisidium sp* (2.8%).

The highly variable habitat shown by the bottom substrate composition (Figure 3-1) and the fluctuating temperature regimes (Figure 3-4) was reflected in the numerical variability of organisms collected. Numbers varied from 0 to an estimated 2663 animals per m^3. Even among replicates the ranges observed were often extreme, such as 0-343, and 397-2965. The spatial and temporal distributions of benthic densities are shown in Table 3-26. The overall mean density of benthic organisms (exclusive of 15 m) increased moderately from June to October (258 to 458 organisms/m^3). Monthly densities were approximately an order of magnitude lower than those observed at Pickering 'B' in 1979 (Ontario Hydro Research Division Report No 82-266-K) and at Pickering peak densities occurred in August. The difference in seasonal peaks can be explained in part by difference in species composition. The Naididae (*Nais pardalis*, *Nais spp*, *Ophidonais serpentina*, and *Stylaria lacustris*), which heavily dominated the benthic fauna at Pickering were most abundant in August at both sites.

No consistent spatial trends in abundance are evident from Table 3-25, and no significant differences in the estimated mean numbers of organisms collected among transects, depths or time of the season were found by analysis of variance.

TABLE 3-25

PERCENT COMPOSITION AND MEAN DENSITIES (NUMBERS/m^2)
OF DOMINANT MACROINVERTEBRATES
WESLEYVILLE 'A' GS - 1978

		JUNE		AUGUST		OCTOBER		YEAR	
		Mean Density (#/m^2)	%	Mean Density (#/m^2)	%	Mean Density (#/m^2)	%	Mean Density (#/m^2)	%
Heterotrissocladius hirtipex	C	0.9	0.3	68.4	24.1	11.6	2.8	27.6	8.1
Thienemanniella group	C	38.8	12.1	2.9	1.0	16.5	3.9	19.3	5.7
Micrtendipes sp	C	16.0	5.0	1.2	0.4	25.8	6.1	14.0	4.1
Nais pardalis	O	0.0	0.0	10.4	3.7	32.0	7.6	13.8	4.0
Stylaria lacustris	O	0.5	0.2	25.8	9.1	12.4	3.0	13.0	3.8
Hyalella azteca	A	18.9	5.9	5.7	2.0	13.0	3.1	12.5	3.7
Orthocladius obumbratus	C	33.9	10.6	0.6	0.2	1.5	0.4	12.1	3.5
Polypedilum (tripodura) sp	C	18.1	5.6	0.7	0.2	17.7	4.2	12.2	3.6
Paracladopelma undine	C	27.4	8.5	1.2	0.4	5.1	1.2	11.3	3.3
Pisidium sp	M	6.4	2.0	7.5	2.6	15.6	3.7	9.8	2.8
Pharopsectra (SS) sp	C	22.9	7.1	3.8	1.3	1.3	0.3	9.4	2.8
Nais sp	O	3.9	1.2	19.7	6.9	0.0	0.0	7.9	2.4
Heterotrissocladius sp (b)	C	1.6	0.5	0.5	0.2	22.7	5.4	8.3	2.3
Pisidium supinum	M	0.0	0.0	3.3	1.1	20.2	4.8	7.8	2.2
Chironomus sp	C	2.4	0.7	13.2	4.6	5.5	1.3	7.1	2.1
Lumbriculus sp	A	0.0	0.0	3.2	1.1	12.8	3.0	5.2	1.5
Gyraulus sp	M	0.8	0.2	5.9	2.1	9.0	2.1	5.1	1.5
Lumbriculus fasciatus	A	6.2	1.9	0.7	0.3	8.5	2.0	5.0	1.5
Physa sp	M	1.2	0.4	5.6	2.0	8.1	1.9	4.9	1.4
Pisidium casertanum	M	1.9	0.6	4.8	1.6	9.1	2.2	4.8	1.4
Micrtendipes sp	C	8.0	2.4	1.6	0.5	4.8	1.1	4.7	1.4
Thienemanniella sp	C	3.8	1.2	0.4	0.1	9.6	2.3	4.5	1.3
Promesorella affinis	A	7.1	2.2	1.2	0.4	3.5	0.8	3.9	1.2
Valvata sincera	M	1.6	0.5	5.1	1.8	5.1	1.2	3.9	1.2
Polycelis sp	O	1.6	0.5	3.1	1.1	5.8	1.4	3.5	1.0
Total %			69.6		68.8		68.3		68.7
No of Spars Sampled			37		38		35		

C: Diptera-Chironomidae
A: Amphipoda
O: Oligochaeta
M: Mollusca

TABLE 3-26

MEAN NUMBER/m² OF BENTHIC ORGANISMS ATTACHED

WESLEYVILLE GS 'A' - 1978

June	TRANSECT								Depth
Spar Depth (m)	M	O	P	Q	R	S	U	Y	Mean
1	128	204	56	410	228	1[illegible]	20	36	151
3	218	618	185	172	498	1[illegible]	58	261	269
7	117	1582	324	450	178	2[illegible]	152	110	393
12	603	0	182	112	179	5[illegible]	136	472	218
Transect Mean	266	601	187	286	271	1[illegible]	92	220	**321**
Mean No Found at 15 m	58	-	-	871	327	4[illegible]	103	-	291

August	TRANSECT								Depth
Spar Depth (m)	M	O	P	Q	R	S	U	Y	Mean
1	974	89	132	142	224	12	73	43	223
3	106	27	162	208	240	11[illegible]	324	329	198
7	**132**	**576**	**206**	**316**	**510**	**482**	**336**	**370**	**366**
12	100	424	452	186	208	69[illegible]	853	310	103
Transect Mean	328	279	238	213	296	3[illegible]	396	263	296
Mean No Found at 15 m	155	191	348	205	892	-	-	76	311

October	TRANSECT								Depth
Spar Depth (m)	M	O	P	Q	R	S	U	Y	Mean
1	1380	17	23	4	46	47	156	553	278
3	448	33	92	34	444	35[illegible]	126	254	193
7	76	247	202	46	662	73[illegible]	1144	569	482
12	1231	2278	1196	226	261	3[illegible]	394	1640	696
Transect Mean	783	644	379	78	363	24[illegible]	432	754	458
Mean No Found at 15 m	463	-	-	-	892	59[illegible]	-	-	599

Richness

Richness of benthos, as expressed by taxa present, was evaluated over the study area (Table 3-27). Considerable variability was found. The average number of taxa collected per sample was greater (~10) during June and October. No significant difference (ANOVA) among transects was found on any of the sampling periods. Significant depth differences were identified only in August and October. In August the mean number of taxa collected was significantly lower at the 1 and 3 metre depths than the 7 and 12. In October, although the average number of taxa collected increased with depth, the only significant differences were found between 1 and 12 metres.

Evenness

The Shannon Weiner diversity index was used as a measure of evenness (the greater the index, the smaller the degree of dominance by one or few taxa in the sample). Values obtained ranged between 0 (1 taxon only) and 4.00 (Table 3-28). No consistent trends among transects were evident throughout the three sampling periods. Average diversity indices increased with depth during all three collection periods. The highest overall mean diversities were found in the June sampling (2.31) and decreased to below 2.0 in August and October. The change in diversity is a real one and the August and October samples reflect a drop in chironomid taxa which probably emerged in June. If this was the case, the new early instars, which would be part of the microbenthos, would have passed through the 200 u mesh screens used.

Total Biomass

The complete results of the biomass estimates are presented in Table 3-29. The results presented are with the mollusca excluded. Molluscs were removed because their importance in the samples is greatly exaggerated due to the high shell weight. The total biomass values ranged widely from 0.1 to 351.5 mg/m^2. High variability was evident both within depth strata and among transects. Higher mean biomass values were obtained consistently only at transect M, along the other transects such consistency was not found through the three sampling periods.

Among depths the highest mean values were collected consistently at the 12 m contour. The highest biomass at the Darlington site was also observed at 12 m (Ontario Hydro Research Division Report No 80-387-K). The highest mean biomass was collected in August, 57.3 mg/m^2, as opposed to 38.6 and 33.9 mg/m^2 in June and October, respectively.

The Oligochaetes made up 40.9% of all biomass collected, followed by the Diptera 30.6% and Amphipoda 13.6%. The distribution of the biomass of the three groups is shown in Tables 3-30 (a), (b) and (c). The Oligochaete biomass increased with depth, while the other two were quite variable.

TABLE 3-27

TOTAL NUMBER OF ZOOBENTHIC TAXA
COLLECTED AT EACH SPAR
WESLEYVILLE GS 'A' - 1978

June	TRANSECT								
Spar Depth (m)	M	O	P	Q	R	S	U	Y	Depth Mean
1	3	7	3	15	8	7	2	3	6.0
3	7	12	7	11	14	4	5	14	9.3
7	13	33	17	19	7	11	8	12	15.0
12	17	0	7	6	10	9	15	21	10.6
Mean Number of Taxa Per Transect	10.0	13.0	8.5	12.7	9.7	7.7	7.5	12.5	10.2
15	2	NS	NS	14	11	1	5	NS	6.6

August	TRANSECT								
Spar Depth (m)	M	O	P	Q	R	S	U	Y	Depth Mean
1	10	1	4	7	6	4	4	1	4.6
3	7	4	3	3	9	3	13	4	5.8
7	9	15	8	7	7	8	10	11	9.4
12	7	9	13	12	5	15	22	15	12.3
Mean Number of Taxa Per Transect	8.2	7.2	7.0	7.2	6.7	7.5	12.3	7.7	8.0
15	3	10	7	7	15	NS	NS	4	7.7

October	TRANSECT								
Spar Depth (m)	M	O	P	Q	R	S	U	Y	Depth Mean
1	13	3	1	0	3	4	7	5	4.5
3	11	1	2	4	11	6	8	10	6.6
7	6	3	12	8	13	19	25	19	13.1
12	12	30	21	12	9	2	14	28	16.0
Mean Number of Taxa Per Transect	10.5	9.2	9.0	6.0	9.0	7.7	13.5	15.5	10.1
15	11	NS	NS	NS	10	10	NS	NS	10.3

TABLE B-28

SPATIAL AND TEMPORAL DISTRIBUTION OF
DIVERSITY VALUES AT
WESLEYVILLE GS 'A' - 1978

June	TRANSECT								Depth
Spar Depth (m)	M	O	P	Q	R	S	U	Y	
1	1.12	2.42	1.16	2.46	1.93	2.44	1.00	1.57	
3	1.83	2.56	2.05	2.34	2.14		1.73	2.30	
7	3.10	3.46	3.41		2.65	2.46	1.96	2.99	
12	3.32	0	2.64	1.90		2.95	3.36	3.54	
	2.34	2.11	2.32	2.58	2.42	2.39	1.74	2.60	

August	TRANSECT								Depth
Spar Depth (m)	M	O	P	Q	R	S	U	Y	
1	1.79	0	.91	2.64		1.19	1.93	0	
3	2.26	1.50	.67	1.52	2.18	1.04	2.88	1.50	1.69
7	2.68		2.40	2.48		1.78	2.71		
12	2.52	1.78		3.04	1.38	2.90	3.23		
	2.31	1.43	1.63	2.42	1.72	1.73	2.70	1.78	

October	TRANSECT								Depth
Spar Depth (m)	M	O	P	Q	R	S	U	Y	
1	1.94	.92	0	0	1.58	2.00	1.31	1.40	
3	2.08	0	0	.8	1.84	1.90	1.41		
7	2.13	0	2.70	2.06	2.11	3.43	3.72		
12	2.53			2.98	2.75	1.00	3.38		
	2.17	1.22	1.60	1.46	2.07	2.15	2.50		

TABLE 3-29

[illegible]
[illegible]
[illegible] GS 'A' - [illegible]

Depth Contour	M	O	P	[illegible]	R	S	U	Y	Depth Contour Mean Biomass
1 m	3.7	29.1	0.0	4.[illegible]	50.5	5.7	0.7	1.1	[illegible]
3 m	133.7	41.4	13.8	13.5	3[illegible].6	6.7	4.4	23.4	35.1
7 m	60.1	487.1	35.4	37.5	[illegible]	28.8	49.2	5.3	[illegible]
12 m	387.4	0.0	340.2	[illegible]	[illegible]	20.1	2.6	2.9	[illegible]
15 m	[illegible]	NS	NS	[illegible]	[illegible]	32.6	115.4		37.6
Transect Mean Biomass	124.[illegible]	109.[illegible]	93.4	30.[illegible]	[illegible]	20.8	34.5	9.4	74.4

Depth Contour	M	O	P	[illegible]	R	S	U	Y	Depth Contour Mean Biomass
1 m	135.0	18.3	25.7	[illegible]	36.1	19.9	14.7	13.9	[illegible]
3 m	6.1	2.3	19.0	[illegible]	[illegible]	25.5	105.1	[illegible]	[illegible]
7 m	51.4	194.0	31.7	[illegible]	34.7	109.9	1.5	[illegible]	[illegible]
12 m	465.0	407.3	50.1	[illegible]	95.5	401.6	82.7	70.8	[illegible]
15 m	NS	NS	NS	NS	306.6	[illegible]	NS	NS	[illegible]
Transect Mean Biomass	[illegible]	195.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Depth Contour	M	O	P	[illegible]	R	S	U	Y	Depth Contour Mean Biomass
1 m	81.8	3.9	5.3	[illegible]	5.0	4.7	38.5	[illegible]	[illegible]
3 m	[illegible].6	0.2	14.0	[illegible]	13.4	[illegible]	1.6	[illegible]	[illegible]
7 m	1.6	57.0	28.[illegible]	[illegible]	51.3	264.6	[illegible]	[illegible]	[illegible]
12 m	[illegible]	379.2	[illegible]	[illegible]	19.7	[illegible]	88.1	[illegible]	[illegible]
15 m	[illegible]	NS	NS	NS	32[illegible]	NS	NS	NS	[illegible]
Transect Mean Biomass	[illegible]	[illegible]	[illegible]	[illegible]	82.[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

TABLE 3-30 (a)

WESLEYVILLE - OLIGOCHAETA - TOTAL BIOMASS (mg/m²)

	M	O	P	Q	R	S	U	Y	Mean
1	58.44	13.60	26.05	4.43	30.30	[illegible]	2.81	23.49	[illegible]
3	8.82	1.88	20.94	19.72	17.75	[illegible]	18.44	61.42	[illegible]
7	29.91	14.78	38.28	31.88	108.59	[illegible]	12.97	31.48	[illegible]
12	84.67	395.93	88.68	21.15	275.06	[illegible]	41.70	52.31	130.99
15	25.00	-	-	-	350.09	[illegible]	-	-	52.81
Mean	41.35	65.28	34.79	15.44	156.36	[illegible]	15.18	33.54	

TABLE 3-30 (b)

WESLEYVILLE - DIPTERA - TOTAL BIOMASS mg/m²

	M	O	P	Q	R	S	U	Y	Mean
1	80.02	25.37	4.91	23.22	48.12	[illegible]	50.89	8.11	[illegible]
3	15.64	38.06	24.20	49.92	42.70	[illegible]	112.47	19.40	[illegible]
7	22.01	23.13	6.36	33.64	41.18	[illegible]	20.83	[illegible]	[illegible]
12	124.45	70.15	99.96	11.33	67.78	[illegible]	12.46	[illegible]	[illegible]
15	9.91	-	-	-	32.19	[illegible]	-	-	[illegible]
Mean	50.41	31.34	27.09	23.62	56.39	[illegible]	39.33	[illegible]	

TABLE 3-30 (c)

WESLEYVILLE - AMPHIPODA - TOTAL BIOMASS mg/m²

	M	O	P	Q	R	S	U	Y	Mean
1	167.82	1.3	-	-	13.12	-	-	27.81	[illegible]
3	24.70	-	-	7.20	1.49	-	0.10	23.60	[illegible]
7	27.46	-	24.27	4.40	15.96	[illegible]	53.79	4.11	[illegible]
12	14.12	10.64	3.61	1.96	0.19	[illegible]	9.58	0.48	[illegible]
15	0.17	-	-	-	9.63	[illegible]	-	-	[illegible]
Mean	48.85	2.13	5.58	2.71	8.08	[illegible]	12.69	11.20	

When the molluscs were included in the analyses, it was found that their total biomass exceeded the totals of the soft bodied taxa 5267.6 mg to 4173.6; most of the weight consisting of shell material. Of the molluscs, the gastropod and pelecypod biomass was fairly evenly distributed - 2539.8 mg of the former and 2727.8 mg of the latter were collected.

Most of the mollusc biomass was collected at the 7 and 12 m depths [Tables 3-31 (a), (b)]. The transects which held the highest molluscan biomass for both groups was M, followed by O.

15 m Depth Characteristics

Numerically the densities sampled at the 15 m depth were generally higher than the 1 and 3 m depth samples, but well within the ranges encountered at the 7 and 12 m depths. Similar results were found for biomass, species richness and diversity. These results suggest that there is little difference in the above parameters between the 12 and 15 m depths.

3.4.2 Spatial Distribution of Individual Benthic Taxa

The numerical spatial distributions of the dominant Chironomidae, Amphipoda and Oligochaeta are presented below. Relation of the distribution to habitat will be considered in the subsequent section.

Chironomidae

Heterotrissocladius hirtapex - this was the most abundant species identified in the collections (8.57%). Very few individuals were collected in June, a few in October, but most were collected in August, when they accounted for 27.9% of the total animals in the collection (Table 3-25). This animal was widely distributed below the 3 m depth, being rare at the 1 m contour (Appendix 3-13).

Thienemannimyia (Group)

This group of chironomids was the dominant group in the June samples (Table 3-25) and was rarest in August. Specimens were collected at all depths and no obvious spatial distribution pattern was evident.

Dicrotendipes spp

This genus was collected primarily in spring and fall (Table 3-24). Their distribution suggests a habitat preference below 7 m. Most *Dictrotendipes* were collected along the 12 m contour, and individuals were found at all transects.

Orthocladius obumbratus

This chironomid was prominent in the June collection but was rare in August and October (Table 3-25). It was collected primarily

TABLE 3-31(a)

[illegible]

	M	O	P	Q	R	S	U	Y	[illegible]
1	42.3[illegible]	-	-	-	-	-	-	-	5.[illegible]
3	2.44	-	-	-	-	-	-	-	[illegible]
7		225.53	15.45	46.34	[illegible]	[illegible]13.82	[illegible].95	19.77	[illegible]
12	1169.19	179.44	205.47	10.92	5.[illegible]	[illegible]33.20	33.44	262.25	[illegible]
15	-	-	-	-	210.[illegible]	-	9.50	-	[illegible]
Mean	242.84	80.99	44.13	11.45	[illegible]	[illegible].40	[illegible].13	56.40	

TABLE 3-31(b)

[illegible]

	M	O	P	Q	R	S	U	Y	[illegible]
1	1.53	-	-	-	9.1[illegible]	-	-	12.15	[illegible]
3	128.39	-	-	-	17.9[illegible]	-	-	-	[illegible]
7	32.89	342.64	10.97	131.80		40.82	310.02	[illegible]	[illegible]
12	520.59	147.29	503.52	6.75	[illegible]33.9[illegible]	-	[illegible]	66.[illegible]	[illegible]
15	1.96	-	-	-	-	-	-	-	[illegible]
Mean	137.21	97.99	102.90	27.71	32.[illegible]	8.16	[illegible]	[illegible]	

at depths shallower than 7 m and was concentrated along transects Q and R.

Paracladopelma undine, Heterotrissocladius spp, and Polypedilum tripodura

These species were present mainly in the spring and fall. They were fairly well represented throughout the sampling areas with few exceptions.

It would appear that at least two species of *Heterotrissocladius* were present. One species was collected in June and October at the 7 m depth of the easternmost transects, while the other species was collected along transect U only in August.

Phaenopsectra spp

These species were collected mainly in the spring and were most numerous in the shallow water areas of transects O, Q and Y.

Amphipoda

Two species of amphipods were predominant in the collections - *Hyalella azteca* and *Gammarus fasciatus*. Of the two, *H. azteca* was the most abundant. Both species were collected during all three sampling periods, and both were rare along transects P and R. *H. azteca* was collected primarily at depths deeper than 3 m while *G. fasciatus* was collected at all depths. It should be noted that the areas where low densities of amphipods occurred had gravel and pebble substrates, and were also in the vicinity of the Wesleyville GS 'A' construction.

Oligochaeta

Nais spp and *Nais pardalis*

Some of the individual *Nais* could not be speciated and were thus counted as *Nais spp*. Since no other species of *Nais* other than *pardalis* were collected at the site, and because the distributions observed (both temporal and spatial) suggest that we are dealing with one species, *Nais* was treated as one taxon. This taxon occurred in low densities in the spring but became quite abundant in August and October. *Nais* was collected at all depths, although it was rare at 12 and 15 m.

Stylaria lacustris

While *Nais* was found primarily at depths shallower than 12 m, *S. lacustris* greatest densities were found at 7 and 12 m and were also represented at 15 m. The zone between transects P and S supported the lowest densities.

3.4.3 Comparative Description of Benthic Community and Habitat

Samples having similar taxonomic composition and measures of evenness were grouped together into assemblages using the Mutual Information Statistics. The results were nine discrete assemblages identifiable by the dominant taxa (Table 3-32). A tenth group also was found but its identifying characteristics were the almost complete dissimilarity of the samples involved to any other sample collected, and their low diversity values.

TABLE 3-32

BENTHIC ASSEMBLAGES IDENTIFIED AT WESLEYVILLE

Assemblage	Dominant Taxa	% Comp
1	*Paracladopelma undine*	56.2
2	*Phaenopsectra (SS) sp*	37.4
	Polypedilum (tripodura)	21.7
	Orthocladius obumbratus	16.6
3	*Polypedilum (tripodura)*	28.8
4	*Nais pardalis*	54.3
5	*Heterotrissocladius hirtapex*	33.3
6	Lumbriculidae	31.5
7	*Thienemannimyia* (group)	24.7
8	*Chironomus sp*	57.2
9	*Orthocladius obumbratus*	43.3

The samples in the nine groups were associated with the following physical variables: mean temperature during the month prior to sample collection, depth of collection, sedimentation rate, mean particle size of the substrate, organic content of the substrate and month of collection.

The within group means and standard deviation values for the variables collected are shown in Table 3-33. Multivariate discriminant analysis using the BMD program was carried out to search out those variables which best separate the nine groups in the environmental space delineated by the six variables. Of the six scaled discriminant functions formed, three accounted for over 95% of the among group variance (Table 3-34). Functions 1 and 2 together accounted for nearly 90% of the variance and were heavily influenced by temperature and depth. Or more realistically, some variable correlated with temperature and depth. The third

TABLE 3-33

WITHIN GROUP MEANS AND STANDARD DEVIATIONS
FOR THE VARIABLES ASSOCIATED WITH EACH GROUP

Variable	1	9	2	4	8	3	5	6	7
Temperature	6.7929	5.7250	6.1333	14.519	14.345	9.5429	14.200	6.4533	5.8[illegible]
	(1.3194)	(0.29861)	(0.23094)	(4.3390)	(4.3910)	(0.68765)	(2.6658)	(2.6273)	(1.0[illegible]
Depth	2.7143	4.5000	2.3333	3.0000	1.7273	6.0000	10.692	12.769	10.1[illegible]
	(2.0542)	(3.0000)	(1.1547)	(1.7889)	(1.0090)	(3.8730)	(3.9473)	(2.2787)	(2.5[illegible]
Total Deposition	3.0750	0.93500	1.9867	7.3987	8.3036	5.5086	1.4904	0.4223[illegible]	0.4[illegible]
	(5.4670)	(0.84117)	(0.97572)	(4.3180)	(3.2183)	(4.4458)	(1.4192)	(0.34817)	(0.[illegible]
Organic Sediment	0.15000	0.04500	0.07000	0.46562	0.22364	0.22286	0.07500	0.0[illegible]	[illegible]
	(0.23791)	(0.03000)	(0.03464)	(0.79288)	(0.10948)	(0.26856)	(0.06629)	(0.0[illegible])	(0.[illegible]
Particle	-2.6429	-3.6175	-0.14333	-1.3244	-3.6291	-2.5700	-3.5142	-1.9516	-3.[illegible]
	(2.838)	(0.60445)	(0.37018)	(2.5480)	(1.0504)	(1.6229)	(3.8943)	(4.0[illegible])	(2.7[illegible]
Date	6.5714	6.0000	6.0000	8.8750	8.9091	10.000	8.3077	7.0769	6.[illegible]
	(1.4525)	(0.00000)	(0.00000)	(1.0247)	(1.0415)	(0.0000)	(0.73559)	(1.7[illegible])	([illegible]

TABLE 3-34

SCALED DISCRIMINANT FUNCTIONS GIVE RELATIVE DISCRIMINATORY
POWER OF EACH VARIABLE IN EACH FUNCTION

Function	1	2	3
Temp	1.00000	0.03497	-0.72079
Depth	0.35723	1.00000	0.12102
Total	0.08821	-0.00650	-0.16563
Organic	-0.12[illegible]	-0.04[illegible]2	0.65[illegible]
Particle	-0.03643	0.14140	0.68403
Date	0.70011	-0.23[illegible]	1.00000
Percent of trace	56.5	[illegible]	3.7[illegible]

function which accounted for only 3.8% of the variance, was a function primarily dependent on the date of collection. Since date (closely associated with temperature) and depth were principal characteristics determining the distribution of benthic assemblages, they are an appropriate starting point for discussion. Five assemblages (1, 2, 6, 7, 9) occurred in June (Table 3-35). Of these assemblages, 2 and 9, dominated by the chironomids *Phaenopsectra* and *Orthocladium umbratus*, occurred exclusively in June. Assemblage 2 was restricted to comparatively shallow depths, and was the only assemblage with a mean particle size corresponding to sand (Table 3-33). Assemblage 9 was found at depths of 1-7 m, on or adjacent to transect R, on relatively coarse substrates. Assemblages 6 and 7 were dominated by members of the Lumbriculidae and *Thienemanniella* (group), *Dicrotendipes sp* (6) and *Stylaria lacustris* (7). These assemblages predominated at depths of 12-15 m.

None of the assemblages present in June occurred in August. Assemblage 5 was the sole deep water grouping composed primarily of *Heterotrissocladius hirtaper*. At the one and two metre depth, two assemblages dominated (8 and 4). Assemblage 4, dominated by the oligochaete *Nais*, probably *Nais pardalis*, occurred most often at 3 m. Assemblage 8, dominated by *Chironomus*, was found most often at 1 m. Substrates sampled in association with all three of the August assemblages were quite variable (Table 3-33).

In October the area was obviously strongly affected by the fall turnover and strong wave action. The faunal distribution was very heterogeneous and six assemblages were found (1, 3, 4, 5, 6, 7), of which only one (3) had not been observed previously. Very little in the way of spatial patterns could be identified other than that assemblages 1, 3 and 4 were found at depths of 7 m or less, with one exception, while assemblages 5 through 7 were collected at the 12 and 15 m depths, with one exception. The most obvious feature that can be drawn from the three sampling periods is that by October, the distribution of assemblages was beginning to attain some of the characteristics of the June collection, that is, the three dominant spring assemblages (1, 6, 7) were reappearing, while the August dominant (5) had all but disappeared. Assemblage 3, which was only collected in the October sample, was probably an assemblage in transition between assemblages 1, 5 and 6.

From the spatial analysis and multivariate analysis, local effects of construction activity occurring during the time of sampling could not be demonstrated. In part this was due to the extremely heterogeneous and shifting nature of the substrate, which prevented the resolution of substrate as an important factor determining distribution of species assemblages as, for example, has been observed at BNPD in 1979 (Ontario Hydro Research Division Report No 82-107-K). Better resolution of habitat in the analysis should also be obtained by restricting the Mutual Information Analysis and Discriminant Function Analysis to a single sampling period. Because the densities in August were relatively high and the distribution of assemblages relatively uniform along depth contours, that month would be the best for an intensive study aimed at determining the effect of the station on the benthic community. A second choice would be June, while periods of turnover should be avoided.

TABLE 3-35

June

TRANSECTS

		M	O	P	Q	R	S	U	Y
D	1 m	3	2	1	2	9	4	3	1
F	3 m	1	1	1	2	9	1	1	2
P	7 m	7	7	1	1	9	9	7	6
T	12 m	6	4	7	7	6	7	6	7
H	15 m				6	6	6	6	

August

TRANSECTS

		M	O	P	Q	R	S	U	Y
D	1 m	4	X	8	8	9	8	8	4
F	3 m	6	9	4	4	6	8	4	4
P	7 m	5	5	5	4	5	5	5	6
T	12 m	5	X	5	5	5	5	5	5
H	15 m	5	5	5	5	5			5

October

TRANSECTS

		M	O	P	Q	R	S	U	Y
D	1 m	X	8	1	X	3	8	3	X
F	3 m	X	8	1	4	4	8	4	4
P	7 m	3	X	5	X	3	3	4	3
T	12 m	6	X	6	5	3	X	7	7
H	15 m	5				6	5		

3.5 Attached Algae

3.5.1 Community Composition

Attached algae were sampled from natural substrates in June, August and October. A complete listing of per cent composition and biomass for attached algal species, along with associated epiphytic algae, is presented in Appendix 3-13. The two dominant attached algae species found at the Wesleyville site on the three sampling dates were: *Cladophora glomerata* and *Ulothrix zonata* (Table 3-36).

TABLE 3-36

SPECIES LIST FOR ATTACHED ALGAE AND THEIR EPIPHYTES

Periphyton	Epiphyton
Cladophora glomerata	*Diatoma sp*
Ulothrix zonata	*Pennales*
Oedogonium sp	*Cymbella sp*
Spirogyra sp	*Rhoicosphenia curvata*
	Cocconeis sp
	Navicula spp
	Asterocytis

In addition to these, two other periphytic species, namely *Oedogonium sp* and *Spirogyra sp* appeared sporadically. Seven species of epiphytes were found in association with the attached algae. *Cocconeis sp* and *Rhoicosphenia curvata* were the most prominent of the ephiphytes.

3.5.2 Relative Abundance, Biomass and Spatial Distribution

With a water temperature range of 8-10°C on June 14, shoreline sampling locations were completely dominated by *Ulothrix zonata* (Table 3-37). Offshore, at the 3 m sampling contour, *U. zonata* and *C. glomerate* occurred on transect Q. *C. glomerata* was dominant on transects M and Y at the 3 m depth. No significant difference between shoreline biomass with a mean ash weight of 117.5 ± 64.9 gms/m^2 and 3 m biomass levels with a mean of 60.5 ± 81.1 gms/m^2 was found (Appendix 3-14).

TABLE 3-37

PER CENT COMPOSITION AND ATTACHED ALGAL BIOMASS (g/m^2)
JUNE 13
WESLEYVILLE GS 'A' - 1978

PER CENT COMPOSITION		TRANSECT K	M	O	P	Q	R	S	Y
Shoreline	*U. zonata*	100	100		100	100	100	100	99
	C. glomerata								1
3 m	*U. zonata*		7	95	NIS	50	100	NIS	
	C. glomerata		93	5		50			100

BIOMASS (g/m^2)		TRANSECT K	M	O	P	Q	R	S	Y	Mean
Shoreline	Dry Weight	152.8	208.6	NIS	99.0	219.3	153.7	136.2	145.4	144.5
	Ash Weight	137.9	174.6		78.7	216.0	113.0	109.6	121.3	137.5
3 m	Dry Weight	NIS	118.8	262.7	NIS	15.7	40.3	11.3	129.3	79.4
	Ash Weight		104.7	250.6		13.1	33.1		82.8	69.5

NIS - Nothing in sample

On August 2 water temperatures had increased substantially (18-20°C) and this favoured both an increase in attached algal biomass and a shift from *V. zonata* to *C. glomerata* (Table 3-38). Shoreline locations on transects M and P possesses a co-dominance of *V. zonata* and *C. glomerata* while the four eastern-most transects were still clearly dominated by *V. zonata*. A distinct dominance of *C. glomerata* was evident at the 3 m sampling contour. The mean biomass level at shoreline locations was 408.6 ± 324.4 gms/m^2 while the 3 m spar locations had a mean ash weight biomass of 959 ± 1748.2 gms/m^2. The exceedingly large biomass at the 3 m location on transect Y (5093 gms/m^2) resulted in a high biomass standard deviation. The application of the t-test indicated that no significant differences in attached algal biomass levels were found between shoreline and 3 m locations.

The tendency for *C. glomerata* to replace *V. zonata* as the dominant attached algal species at shoreline and 3 m locations on June 13 and August 2 was confirmed by the October 2-19 data (Table 3-39). *C. glomerata* was the dominant attached algal species at all shoreline locations in October except transect K. At the 3 m depth contour locations *C. glomerata* maintained its dominance with the notable exception of the 3 m sampling location on transect S. At this location *C. glomerata* coexisted with *Oedogonium sp.*

Biomass levels at both shoreline and 3 m spar locations varied widely. Large biomass levels were found at shoreline locations on transect Q (1993.4 gms/m^2) and transect Y (1536.8 gms/m^2). Only four shoreline locations in October had any detectable algal biomass.

At the 3 m depth, transect K had the highest biomass (2038.1 gms/m^2) with the other sampling locations having considerably lower biomass which ranged from 110.6 to 214.2 gms/m^2.

Overall, the mean attached algal biomass at the shoreline locations in October was 547.5 ± 812.9 gms/m^2 for the 3 m spar locations. The large standard deviations in algal biomass resulted in no significant difference being found between shoreline and 3 m sampling locations when a t-test was applied (Appendix 3-14).

The shift in dominance from *Ulothrix* to *Cladophora* between June and August was expected, based on studies at Pickering where the shift occurred by late July in ambient (control) areas (Ontario Hydro Research Division Report No 80-226-K).

Growths of attached algae appear to favour certain benthic species, particularly the Naididae, by providing cover and a surface for epiphytic algae and bacteria eaten by the benthos (Learner et al, 1978). The benthos can in turn be utilized by demersal-feeding fish species such as suckers and sculpins. The algae may also be utilized directly by gizzard shad, which are known to graze on the bottom, and are anatomically equipped to digest the cell walls (Miller, 1960; Pierce et al, 1981).

TABLE 3-38

PER CENT COMPOSITION AND ATTACHED
ALGAL BIOMASS (g/m)
AUGUST 3
WESLEYVILLE GS 'A' - 1978

PER CENT COMPOSITION		TRANSECT K	M	O	P	Q	R	S	Y
Shoreline	*L. sonata*	NIS	50	NIS	50	90	100	99	100
	C. glomerata		50		50	10		1	
5 m	*L. sonata*	2	1		NIS		1	NIS	1
	C. glomerata	98	99	100		100	99		99

BIOMASS (g/m²)		TRANSECT K	M	O	P	Q	R	S	Y	Mean
Shoreline	Dry Weight	NIS	61[illegible].8	NIS	167.0	849.2	889.8	642.6	714.0	647.[illegible]
	Ash Weight		355.7		123.0	789.3	782.3	556.8	662.0	[illegible]
3 m	Dry Weight	76.6	353.9	1563.2	NIS	173.9	243.5	NIS	[illegible]	[illegible]
	Ash Weight	71.2	683.4	1516.7		143.3	170.3		[illegible]	[illegible]

NIS - Nothing in sample

TABLE 3-39

PER CENT COMPOSITION AND ATTACHED
ALGAL BIOMASS (g/m^2)
OCTOBER 2-19
WESLEYVILLE GS 'A' - 1978

PER CENT COMPOSITION		TRANSECT K	M	O	P	Q	R	S	Y
Shoreline	*U. nonata*	99					15		
	C. glomerata	1		NIS	NIS	100	85	100	100
3 m	*U. nonata*								
	C. glomerata	100	100			100	100	40	
	Bodegonium							30	
	Actero							20	
	Spirogyra							10	

BIOMASS (g/m^2)		TRANSECT K	M	O	P	Q	R	S	Y	Mean
Shoreline	Dry Weight	83.6	NIS	NIS	NIS	2304.8	477.7	AD	1718.6	1146.2
	Ash Weight	70.6				1992.4	231.4		1535.8	958.7
3 m	Dry Weight	2545.3	164.4	NIS	NIS	158.3	412.2	117.4	NIS	679.5
	Ash Weight	2038.1	112.3			139.6	214.2	110.5		523.0

AD - Anomalous data
NIS - [illegible]

3.6 Fish

3.6.1 Ichthyoplankton

Four species of larval fish were taken in surface and bottom tows at the Wesleyville site from April 24 to August 15. These species, and per cent abundances, are shown in Table 3-40.

TABLE 3-40

NUMBER AND PER CENT OF LARVAL FISH SPECIES TAKEN IN DAY TOWS AT WESLEYVILLE GS 'A', APRIL TO AUGUST, 1978

Larval Fish Species	Number	Percentage
Smelt *(Osmerus mordax)*	515	76
Alewife *(Alosa pseudoharengus)*	135	20
Slimy Sculpin *(Cottus cognatus)*	29	4
Cyprinid (unidentified)	1	-
	680	

The seasonality of the three dominant species is summarized in Table 3-41 and presented graphically in Figure 3-10.

TABLE 3-41

MEAN LARVAL FISH DENSITY IN DAYTIME SURFACE AND BOTTOM TOWS AT WESLEYVILLE GS 'A', 1978

NUMBER PER CUBIC METRE (AVERAGE [illegible])

	April 24-25	May 4-5	May 18	June 8-9	[illegible] 21	July [illegible]	July 18	[illegible] 1-2	[illegible]
Smelt	0	0	.001	.018	[illegible]	[illegible]	[illegible]	0	0
Alewife	0	0	0	0	0	0	0	.004	[illegible]
Slimy Sculpin	0	0	0	0	0	0	.002	[illegible]	[illegible]

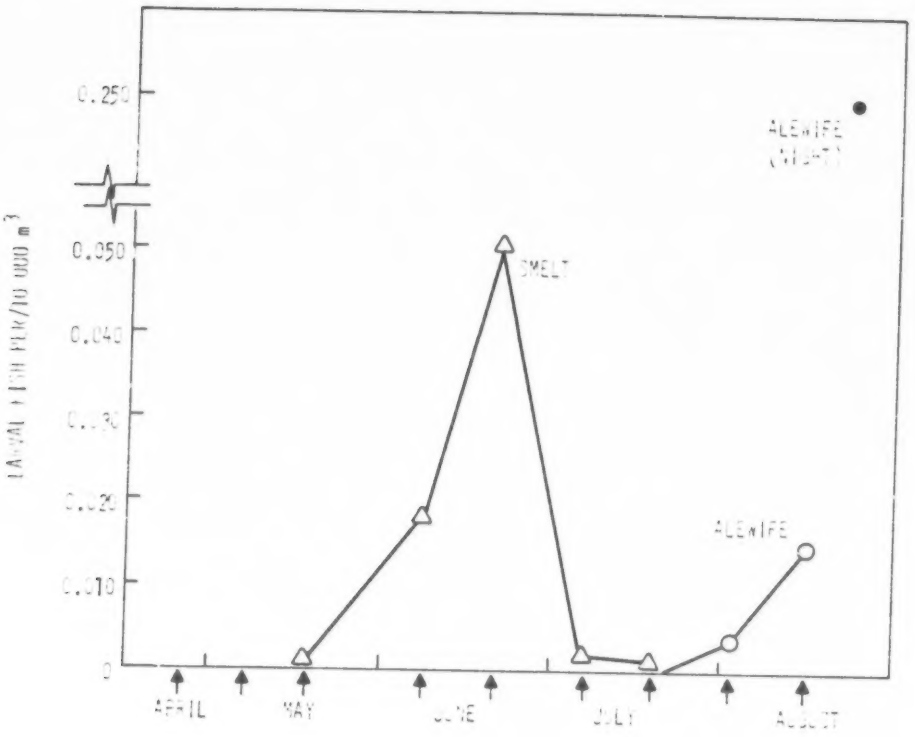


FIGURE 3-10

MEAN DENSITY OF LARVAL SMELT AND ALEWIFE
IN DAY TOWS AT WESLEYVILLE GS A - 1978

Smelt larvae peaked on June 21-22, attaining an average density of 0.051 larvae per cubic metre in day tows. Alewife larvae were maximally abundant in day tows on August 15, averaging 0.015 larvae per cubic metre. Slimy sculpin were present at low density from mid July to mid August. Night tows conducted on August 22 only, at a reduced number of locations, produced an average alewife density of about 0.242 larvae per cubic metre.

The vertical and horizontal density distribution of these three larval species will be discussed individually.

Larval Smelt *(Osmerus mordax)*

Larval smelt first appeared in day tows on May 18, peaked on June 22, and were rare after July 18 (Figure 3-10). Maximum average density on any one sampling trip was 0.051 per cubic metre on June 21-22. In terms of biomass, this peak represents a larval density of about 0.002 mg/m^3.

To analyze the spatial distribution of the smelt larvae, the two dates of maximum abundance (June 8-9, June 21-22) were selected and examined independently. These data are presented in Tables 3-42 and 3-43 respectively.

A two-way analysis of variance without replication was used to test whether the differences observed among contour and transect means were significant.

For the June 8-9 data (Table 3-53), no difference was observed among transects O through Y ($F_{4,16} = 1.27$, NS). However a significant difference was observed among contours ($F_{4,16} = 5.61$**). A comparison of the means test indicated that a significantly greater density of smelt larvae occurred in the 7 m bottom samples (0.04/m^3) than in the 15 m bottom samples (0.016/m^3) or the surface samples.

TABLE 3-42

MEAN DENSITY OF LARVAL SMELT IN DAY TOWS
ON JUNE 8-9, AT WESLEYVILLE GS 'A', 1978

(Density/m^3) x 10^3

Sampling Contour	K	M	O	Q	S	U	Y	Sum	Mean
3S	30	25	3	5	10	10	3	96	14
7S	35	8	10	0	3	5	0	61	9
15S	73	28	0	0	3	3	5	112	16
7B			33	40	13	23	90	199	40
15B			3	17	3	18	35	76	16
Sum	138	61	49	62	42	59	133	544	
Mean	46	20	10	12	8	12	27		16

The surface samples taken on seven transects (K to Y) were tested by two-way ANOVA, and no difference was detected at the 95% level among samples collected at three contours ($F_{2,12} = 0.82$ NS).

However, a significant difference was determined among transects ($F_{6,12} = 6.52$**) which was due primarily to the greater density of smelt observed in surface water on transects K and M.

TABLE 3-43

MEAN DENSITY OF LARVAL SMELT IN DAY TOWS
ON JUNE 21-22, AT WESLEYVILLE GS 'A', 1978

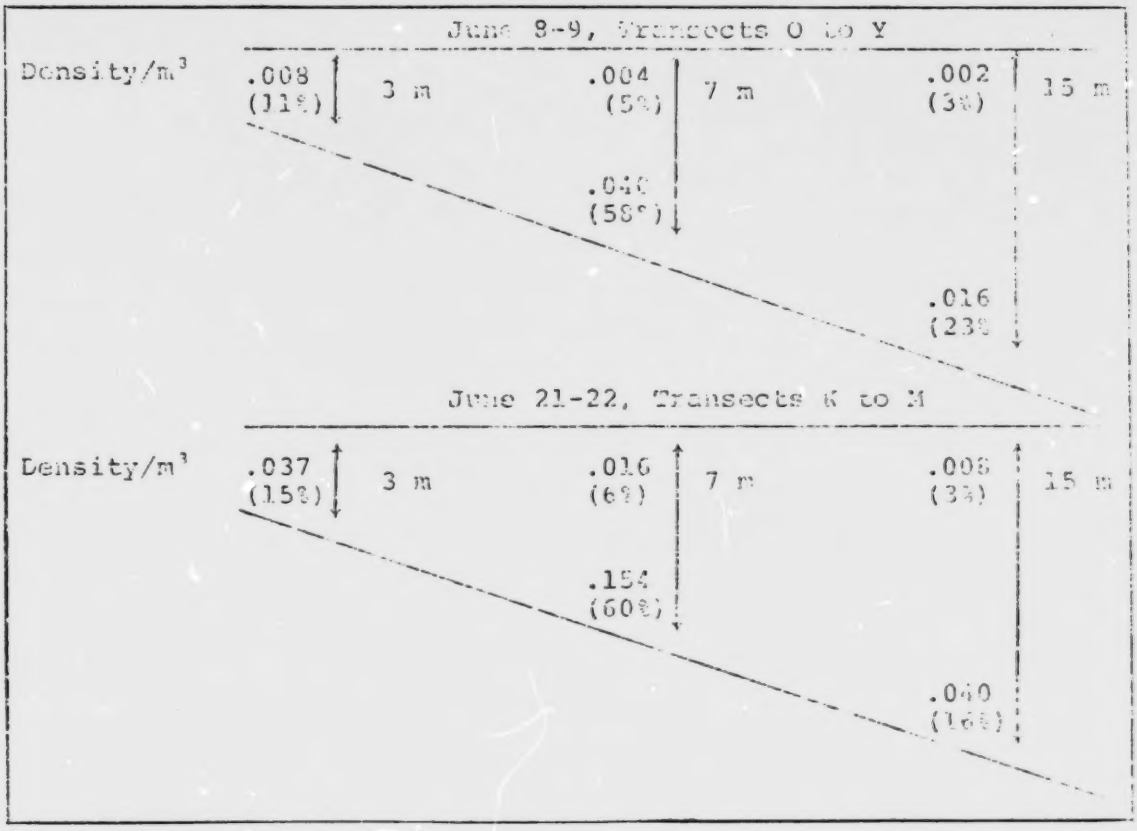
Sampling Contour	K	M	O	Q	S	U	Y	Sum	Mean
3S	40	80	35	30	35	35	5	260	37
7S	30	5	15	0	45	5	10	110	16
15S	10	5	0	10	0	10	20	55	8
7B	140	150	155	205	115	100	210	1075	154
15B	15	5	5	45	115	5	90	280	40
Sum	235	245	210	290	310	155	335	1780	
Mean	47	49	42	58	62	31	67		51

On June 21-23, the overall density of smelt had increased, and some trends were apparent from Table 3-55. A two-way ANOVA was run on the complete data in Table 3-55 and no difference was found among transects ($F_{6,24} = 0.81$ NS). A highly significant difference was found among sampling contours ($F_{4,24} = 25.45$**) due primarily to the large density observed in the 7 m bottom samples ($0.154/m^3$). A Student Newman-Keuls comparison of the means test indicated that the 7 m bottom samples were distinct from the remaining groups of sampling contours.

The vertical and offshore distribution of smelt larvae on the two dates are compared in Figure 3-11. Apart from a four-fold increase in larval density from June 8-9 to June 21-22, the distributional pattern remained almost the same. Greatest concentration of larval smelt was present at the 7 m bottom contour, followed by the 15 m bottom and the 3 metre surface. The larval density in surface water decreased with increasing distance from shore.

FIGURE 3-11

VERTICAL AND HORIZONTAL DISTRIBUTION AND DENSITY OF SMELT LARVAE ON TWO DATES AT WESLEYVILLE GS 'A' - 1978



Larval Alewife *(Alosa pseudoharengus)*

Alewife larvae were present on only the last two of the 9 sampling trips - August 1-2, and August 15. Water temperature at the 2 m depth reached 18°C by August 1, and varied from 18-21°C to August 15. Alewife larval density was fairly low in day tows over this period, varying from 0.004/m^3 on August 1-2 to 0.015/m^3 on August 15 (Table 3-56). In addition, some night samples were collected on August 22, and the alewife density in these tows averaged 0.246 larvae/m^3.

Daytime surface larval tows from transects K to Y were examined for August 1-2 and August 15. The data from these two dates combined are shown in Table 3-44.

TABLE 3-44

MEAN DENSITY OF LARVAL ALEWIFE IN DAY TOWS ON AUGUST 1 AND AUGUST 15, AT WESLEYVILLE GS 'A', 1978

Depth Contour	Distance Offshore	TRANSECT K	M	O	Q	S	U	Y	Mean
3 m	250 m	.043	.009	.006	.014	.009	.011	0	.013
7 m	750 m	.010	.065	.003	.006	.001	.005	.005	.016
15 m	1300 m	.001	0	.005	.001	0	0	.003	.002
Transect Means		.018	.025	.005	.008	.003	.005	.003	.009

Observations of the mean data in Table 3-44 suggests that alewife were less abundant 1300 m offshore than at the two nearshore sampling contours. Density was greater on transects K and M than on transects O to Y. These data were subjected to a three-way analysis of variance (ANOVA) to test if the observed differences attained statistical significance (Table 3-45).

TABLE 3-45

THREE-WAY ANOVA TABLE FOR ALEWIFE DENSITY DATA FROM TRANSECTS K TO Y, AUGUST 1-2 AND AUGUST 15 WESLEYVILLE GS 'A' - 1978

Source	F-Ratio	Degrees Of Freedom
Among Transects	2.00*	6,12
Among Contours	4.00*	2,12
Among Dates	21.62**	1,12
Transect *Contour Interaction	3.31*	12,12
Transect *Date	2.74	6,12
Contour *Date	4.17	2,12
Transect *Depth *Date	3.53**	12,126

Although both alongshore and inshore-offshore trends were significant, both the interaction terms and the error terms were also significant, indicating that the trends were inconsistent (ie a high variability existed among transects, contours, and dates).

Larval alewife data from surface and bottom tows on transect O, Q,S,U and Y over the same two periods were analyzed independently.

* 5% level of significance
** 1% level of significance

The mean densities from August 1 and August 15 dates are shown in Table 3-46.

A three-way ANOVA was run on these data (averages in Table 3-46) and the ANOVA results are shown in Table 3-47.

TABLE 3-46

ALEWIFE LARVAL DENSITY DATA FROM COMBINED AUGUST 1 AND AUGUST 15 SAMPLING DATES, TRANSECTS O-Y WESLEYVILLE GS 'A' - 1978

Sampling Contours	TRANSECT O	O	S	U	Y	Contour Means
3 m S	.006	.014	.008	.011	0	.008
7 m S	.003	.006	.001	.005	.005	.004
15 m S	.005	.004	0	0	.003	.003
7 m B	.022	.016	0	.006	.044	.018
15 m B	0	0	.009	.001	.005	.003
Transect Means	.007	.008	.004	.005	.011	.007

TABLE 3-47

THREE-WAY ANOVA TABLE (DATE, TRANSECT, CONTOUR) FOR ALEWIFE LARVAL DENSITY DATA, TRANSECTS O TO Y AUGUST 1 AND AUGUST 15, AT WESLEYVILLE GS 'A' - 1978

Source	F-Ratio	Degrees of Freedom
Among Transects	1.62 NS	4,16
Among Contours	7.27 **	4,16
Among Dates	4.13 *	1,16
Transect *Contour	2.68 *	16,16
Transect *Date	0.43 NS	4,16
Contour *Date	2.25 NS	4,16
Transect *Contour *Date	0.36 NS	16,160

This analysis indicated that the mean alewife density among transects was not significantly different, but that there was a significant difference amont contours ($F_{*,16}=7.27$). Student

* 5% level of significance
** 1% level of significance

Newman Keuls comparison of the means test showed that the density in the 7 m bottom samples (0.018/m^3) was significantly greater than all other sampling contours. All of the interaction terms were not significant at the 95% level, except the transect-contour interaction, which suggested that the depth distribution trend was not consistent on all transects. An examination of Table 3-46 shows that transect S had a different depth distribution than the other 4 transects.

Night Samples

Night larval tows were conducted along three transects on August 21, including surface samples on transects K, M and Y, and bottom samples on transect Y.

Alewife larvae were dominant in the night samples, having a mean density of 0.205 larvae/m^3 from all samples. Surface samples from the three transects were selected for a two-way ANOVA, including four replicates from each sampling point. A summary of the data and the ANOVA results are presented in Table 3-48.

TABLE 3-48

DENSITY OF LARVAL ALEWIFE IN NIGHT SURFACE TOWS, AND TWO-WAY ANOVA RESULTS, AT WESLEYVILLE GS 'A' AUGUST 21, 1978

A: DENSITY TABLE

Sampling Contour	Distance From Shore	Density/m^3 K	M	Y	Mean
3 m	250 m	.008	.318	.743	.356
7 m	750 m	.003	.225	.430	.223
15 m	1300 m	.063	.345	.078	.162
Mean		.024	.296	.417	.247

B: ANOVA TABLE

Source	F-Ratio	Significance Probability
Transect	23.35	** (.99)
Contour	3.46	** (.95)
Transect *Contour	6.20	** (.99)

The mean densities from Table 3-48 indicated that alewife decreased in density with increasing distance from shore, and that density increased eastward from K to M to Y. The ANOVA Table 3-48 indicated that these trends were significant at the 99% level, but also the significant interaction term indicated the inconsistency of the trends across transects and across contours.

The alewife density in the night samples averaged about ten times greater than the density in similar day samples collected one week earlier.

Vertical Distribution

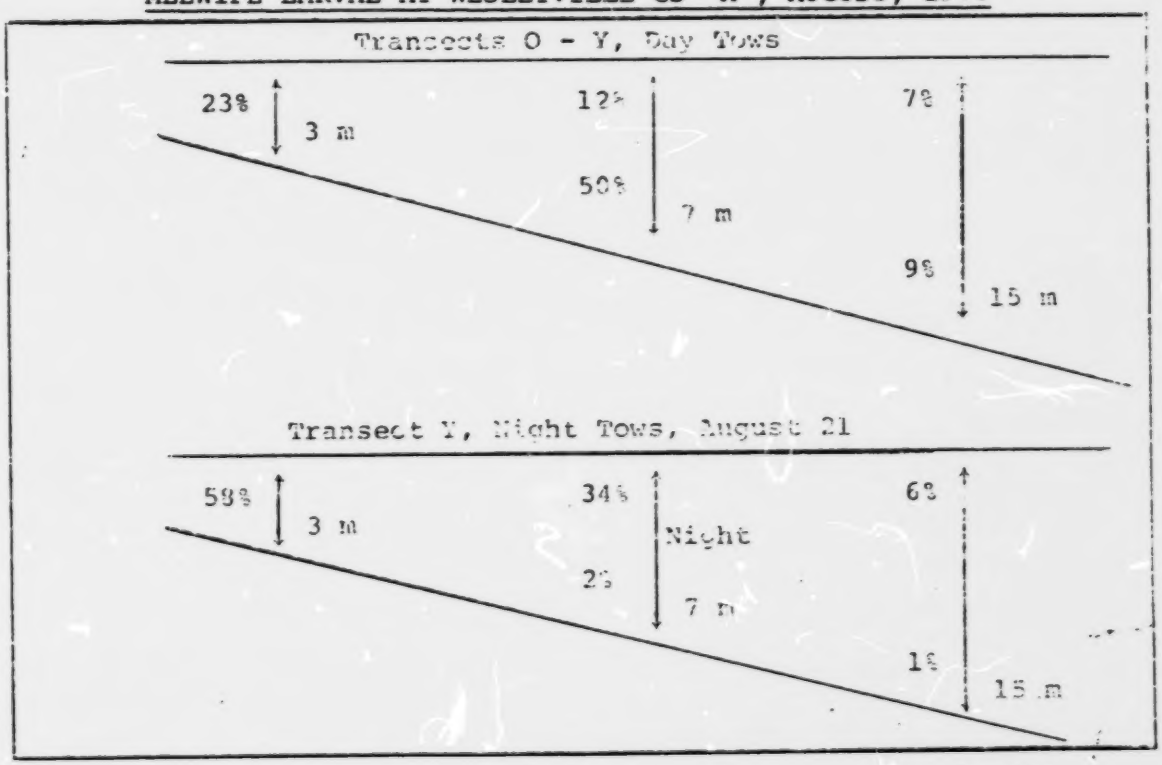
The vertical distribution of larval alewife varied considerably from transect to transect and from week to week. In lumping all of the data into a single profile, some general trends are suggested (Figure 3-12). During the day, most of the larvae are concentrated at the 7 m bottom contour (50%), and at the 3 m sampling contour closest to shore (23%). At night, proportionately more larvae were taken in surface samples at the 3 m contour (58%) and at the 7 m contour (34%).

Slimy Sculpin *(Cottus cognatus)*

Slimy sculpin larvae were taken in low numbers in July and August. These larvae were present only in bottom tows at the 7 m and 15 m contours, with the greater density occurring at the 15 m depth. The maximum density observed was 0.020 larvae/m^3 at the 15 m depth on transect Y, on July 18. In night sampling at Darlington in 1976 larval sculpin were taken in greatest numbers (0.1-0.5/m^3) at 10-15 m, and absent at 25 m (Ontario Hydro Environmental Studies and Assessments Department Report No 81481).

FIGURE 3-12

PER CENT VERTICAL AND OFFSHORE DISTRIBUTION OF ALEWIFE LARVAE AT WESLEYVILLE GS 'A', AUGUST, 1978



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Summary

Larval fish were fairly evenly distributed along the seven transects studied at Wesleyville. Smelt peaked in June and alewife reached maximum density in August. Densities of alewife, smelt and sculpin larvae were highest at successively greater depths (3, 7 and 15 m).

3.6.2 Adult and Juvenile Fish Abundance and Distribution

Adult and juvenile fish collected from May to December by four different gear types (gill nets, trap nets, beach seines, and electrofishing), in order to cover a broad range of fish habitats and sizes. Detailed results are shown in Appendices 3-15, -16,-17 and -18.

Only gill netting was conducted in December as the weather was too inclement for fishing with the other three gear types.

In total, 9945 fish representing 35 species, were taken in all four gear types (Table 3-49). Beach seining sampled the onshore, shallow water community with a mesh size that allowed the capture of fish as small as 2-3 cm. A total of 5171 fish, representing 16 species were taken in beach seines. Trap nets used to intercept larger fish moving alongshore were responsible for catching 16 species also, (659 fish). Gill nets used most effectively to sample pelagic fishes took a total of 3852 fish from 13 species. Due to the scarcity of cover, electrofishing proved to be relatively inefficient with only 263 fish taken from only 9 species.

Alewife was the dominant species taken over the entire season and composed 66.2% of the total catch. Smelt, threespine stickleback and white sucker made up 16.5%, 5.4% and 4.7% of the total fish catch, respectively. The four species collectively made up 92.8% of the total catch.

In terms of seasonal abundance (Table 3-50) smelt were the most prominent in May and made up 47.9% of that month's catch. This peak was probably related to the spring spawning period for smelt (usually April and/or May). In the ensuing months, the relative abundance of smelt showed a progressive decrease. The spawning of smelt in the spring gave rise to peaks in larval smelt catches that occurred from June 7 to June 22 (Figure 3-13). The decrease in adult smelt abundances in June, July and August, was the result of a migration of these fish into deeper waters following the spawning period.

Alewife, on the other hand, had a small relative abundance in May (17.5%) but increased dramatically in June (38.2%) and July (80.5%), with the peak abundance occurring in September (91.0%). Alewife inhabit open lake waters during most of the year and move on to shallow beaches to spawn (Scott and Crossman, 1973).

TABLE 3-49

TOTAL FISH CATCH BY GEAR TYPE
MAY-DECEMBER
WESLEYVILLE GS 'A' - 1978

	Gill Nets		Trap Nets		Beach Seines		Electrofishing		Total	
	Total Number	%	Total Number	%	Total Number	%	Total Number	%	No.	%
1. Alewife	2980	77.4	111	16.8	3278	63.4	215	81.7	6584	66.2
2. Smelt	663	17.2	36	5.5	938	18.1	2	0.8	1639	16.5
3. Threespine Stickleback	0	0	2	0.3	512	9.9	18	6.8	532	5.4
4. White Sucker	123	3.2	352	53.4	7	0.1	2	0.8	484	4.9
5. Brown Bullhead	6	0.2	115	17.5	48	0.9	0	0	169	1.7
6. Emerald Shiner	0	0	0	0	133	2.6	0	0	133	1.3
7. Golden Shiner	0	0	0	0	77	1.5	0	0	77	0.8
8. Yellow Perch	20	0.5	23	3.5	4	0.1	20	7.6	67	0.7
9. Spottail Shiner	0	0	0	0	58	1.1	0	0	58	0.6
10. Fathead Minnow	0	0	0	0	37	0.7	0	0	37	0.4
11. Longnose Sucker	0	0	0	0	32	0.6	0	0	32	0.3
12. Northern Pike	27	0.7	0	0	0	0	0	0	27	0.3
13. Rainbow Trout	0	0	1	0	17	0.3	1	0.4	20	0.2
14. White Perch	7	0.2	9	1.2	1	0	0	0	16	0.2
15. Rock Bass	1	0	15	0	0	0	0	0	16	0.2
16. Pumpkinseed Minnow	0	0	0	0	10	0	0	0	10	0.1
17. Northern Pike	5	0.1	1	0.2	0	0	1	0	7	0.1
18. Yellow Perch	0	0	3	0.5	3	0.1	0	0	6	0.1
19. Coho Salmon	5	0.1	0	0	0	0	1	0	6	0.1
20. Rock Bass	2	0.1	3	0.6	0	0	0	0	6	0.1
21. Blacknose Shiner	5	0.1	0	0	0	0	0	0	5	0.1
22. Goldfish (Minnows)	0	0	0	0	5	0	0	0	5	0.1
23. Smelt in net	0	0	5	0.8	0	0	0	0	5	0.1
24. Carp	0	0	1	0.2	0	0	3	1.1	4	-
25. Chinook Salmon	4	0.1	0	0	0	0	0	0	4	-
26. Spottail Shiner	2	0.1	0	0	2	0	0	0	4	-
27. Fallfish Sucker	2	0.1	0	0	0	0	0	0	2	-
28. Common Shiner	0	0	0	0	2	0	0	0	2	-
29. Brown Trout	1	0	0	0	0	0	0	0	1	-
30. Burbot	0	0	1	0	0	0	0	0	1	-
31. Channel Catfish	0	0	1	0	0	0	0	0	1	-
32. Lake Trout	1	0	0	0	0	0	0	0	1	-
33. Log Perch	0	0	0	0	1	0	0	0	1	-
34. Rainbow Smelt	0	0	0	0	1	0	0	0	1	-
35. Yellow Mackerel (Walleye)	1	0	0	0	0	0	0	0	1	-
	3852		669		5171		263		9945	

TABLE 3-50

SEASONAL PER CENT DOMINANCY OF TEN DOMINANT FISH SPECIES
- ALL GEAR TYPES COMBINED -
MAY-NOVEMBER - WESLEYVILLE GS 'A' - 1978

		PERCENTAGE						
		M	J	J	A	S	O	N
1.	Alewife	17.5	38.2	80.5	77.5	91.0	80.6	48.1
2.	Smelt	47.9	24.2	12.6	11.5	0.9	5.2	1.7
3.	Threespine Stickleback	14.3	27.5	1.2	0.3	0.0	0.0	0.0
4.	White Sucker	9.8	5.9	3.6	2.2	2.2	2.6	8.2
5.	Brown Bullhead	1.1	0.9	0.9	4.6	1.5	1.5	0.4
6.	Emerald Shiner	1.9	0.8	0.2	1.3	1.4	4.7	0.4
7.	Golden Shiner	0.0	0.0	0.0	0.0	0.0	0.0	33.0
8.	Yellow Perch	0.1	0.1	0.0	0.8	2.0	0.7	0.0
9.	Spottail Shiner	2.3	0.1	0.1	0.0	0.0	1.8	0.4
10.	Fathead Minnow	2.0	0.0	0.0	0.0	0.0	0.0	0.0

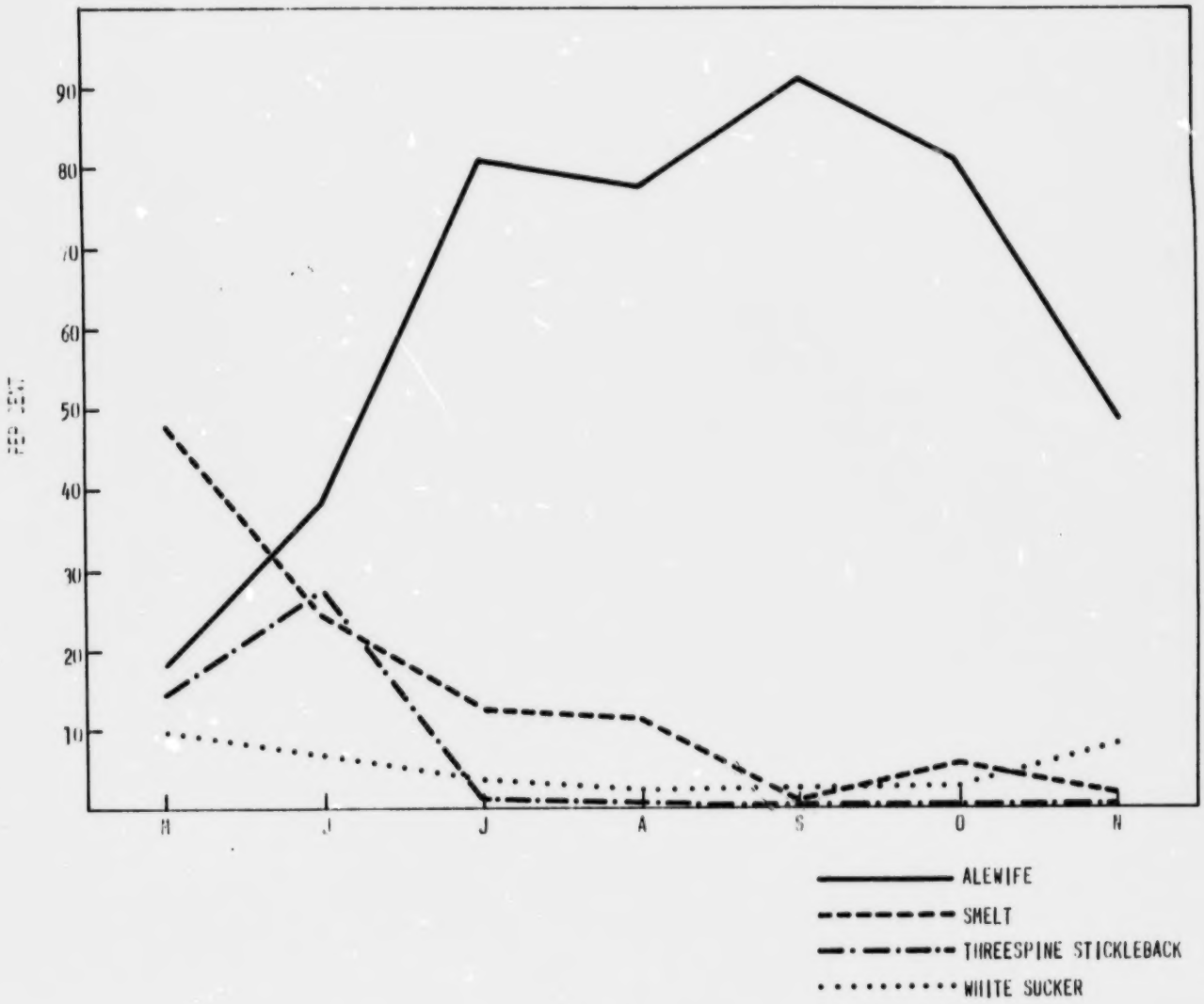

FIGURE 3-13

RELATIVE SEASONAL PER CENT OF DOMINANT FISH SPECIES WESLEYVILLE GS A - 1978

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In Lake Ontario, inshore movements of alewife usually begin in April, the precise time varying with the area (Graham, 1956). Migration in some areas in Lake Ontario lasts from April to mid July. The migration and subsequent spawning of adult alewife correlated well with increases in larval alewife densities in August (Table 3-41).

The threespine stickleback spawns generally in June and July (Scott and Crossman, 1973). The peak in relative abundance of threespine stickleback, at the Wesleyville site, occurred in June. The vast majority of this species (96%) was taken in nearshore areas by beach seining (Table 3-49) which is the primary location for nest building and spawning. Reductions in abundances of threespine stickleback throughout the balance of the season was probably due to the offshore migration of this species after spawning.

Although white suckers spawn from early May to early June, relative seasonal abundances of this species did not appear to substantially differ through the year.

Gill Nets

A total of 3852 fish was taken in gill nets of which 2980 or 77.4% were alewife (Table 3-49). Smelt made up 17.2% of the total gill net catch. Collectively, these two species made up 94.6% of the total gill net catch.

Experimental gill nets were set on the bottom at the 15 m depths on transects K, M, O, Q, R, S and Y to assess the spatial and temporal variations in fish catch for the three dominant species. Spatial and temporal fish catches were translated into catch per unit effort values for gill net catches for the dominant species taken as well as for trap nets, beach seines and electrofishing (Figures 3-14 and 3-15).

The results of two-way analysis of variance (Appendix 3-19b) indicated that there were no significant differences in fish catch for all three dominant species among transects (Figure 3-19). Upon inspection of CUE values for alewife and smelt it was evident that fish catches on transect K were much larger (63 and 20 fish per gill net respectively) relative to the results at all other transects. Wide variations in fish catch for these two species at all transects had the tendency to de-emphasize the significance of the high CUE values on transect K and thus resulted in no significant difference in fish catch among transects.

Expected seasonal or monthly trends were evident for all three species. CUE values for alewife in May, June and July were low and varied from 14 to 18 fish/gill net. CUE values in August and September with values of 51 and 58 fish/gill net respectively were found to be considerably higher and coincided with the alewife spawning period. An abnormally large CUE value for alewife in October (27 fish/gill net) was the result of an unexplained gill net catch on transect R. Only four alewife were

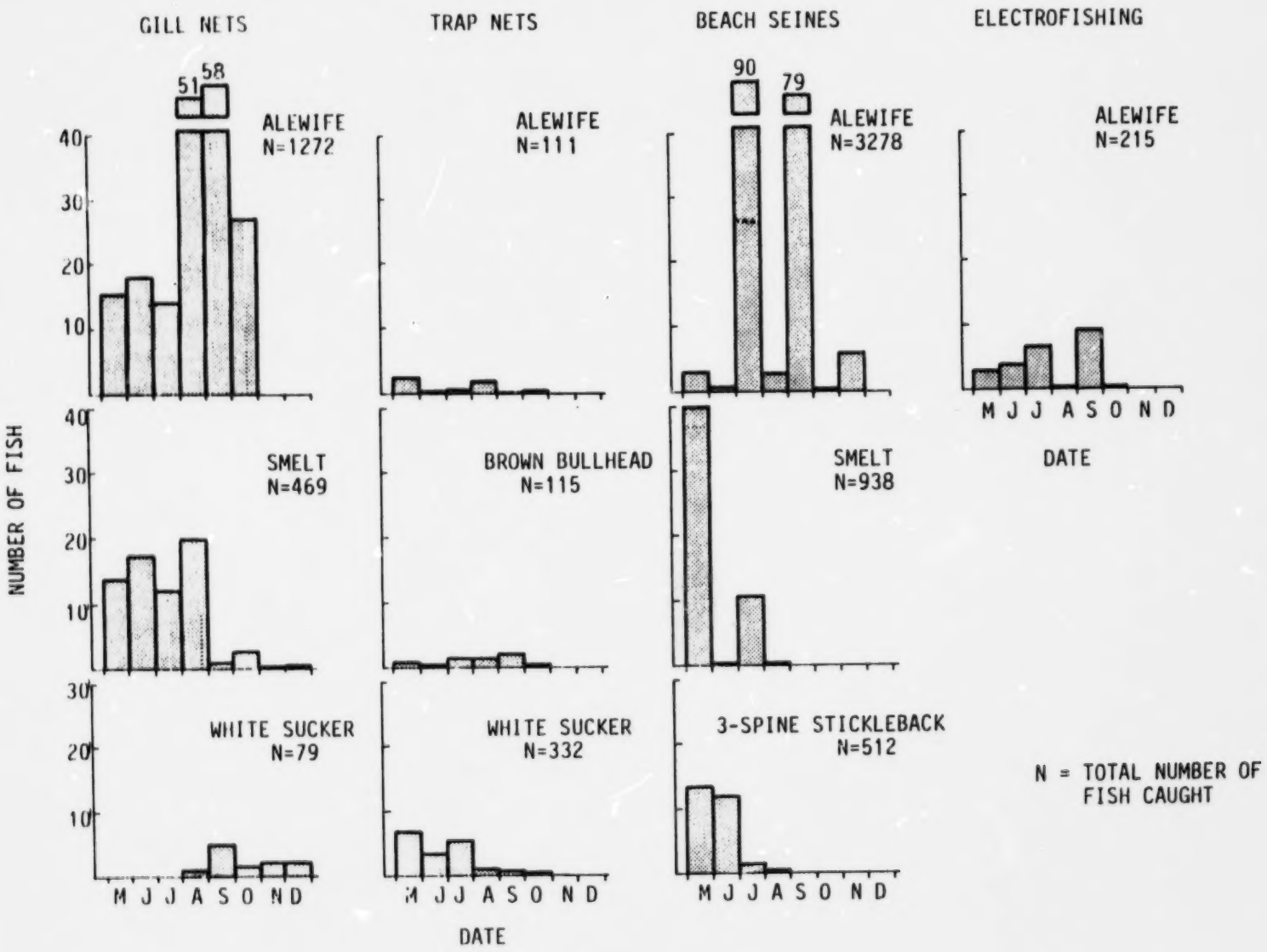

FIGURE 3-14

TEMPORAL VARIATION IN CATCH PER UNIT EFFORT FOR DOMINANT FISH SPECIES TAKEN IN FOUR GEAR TYPES WESLEYVILLE GS A - 1978

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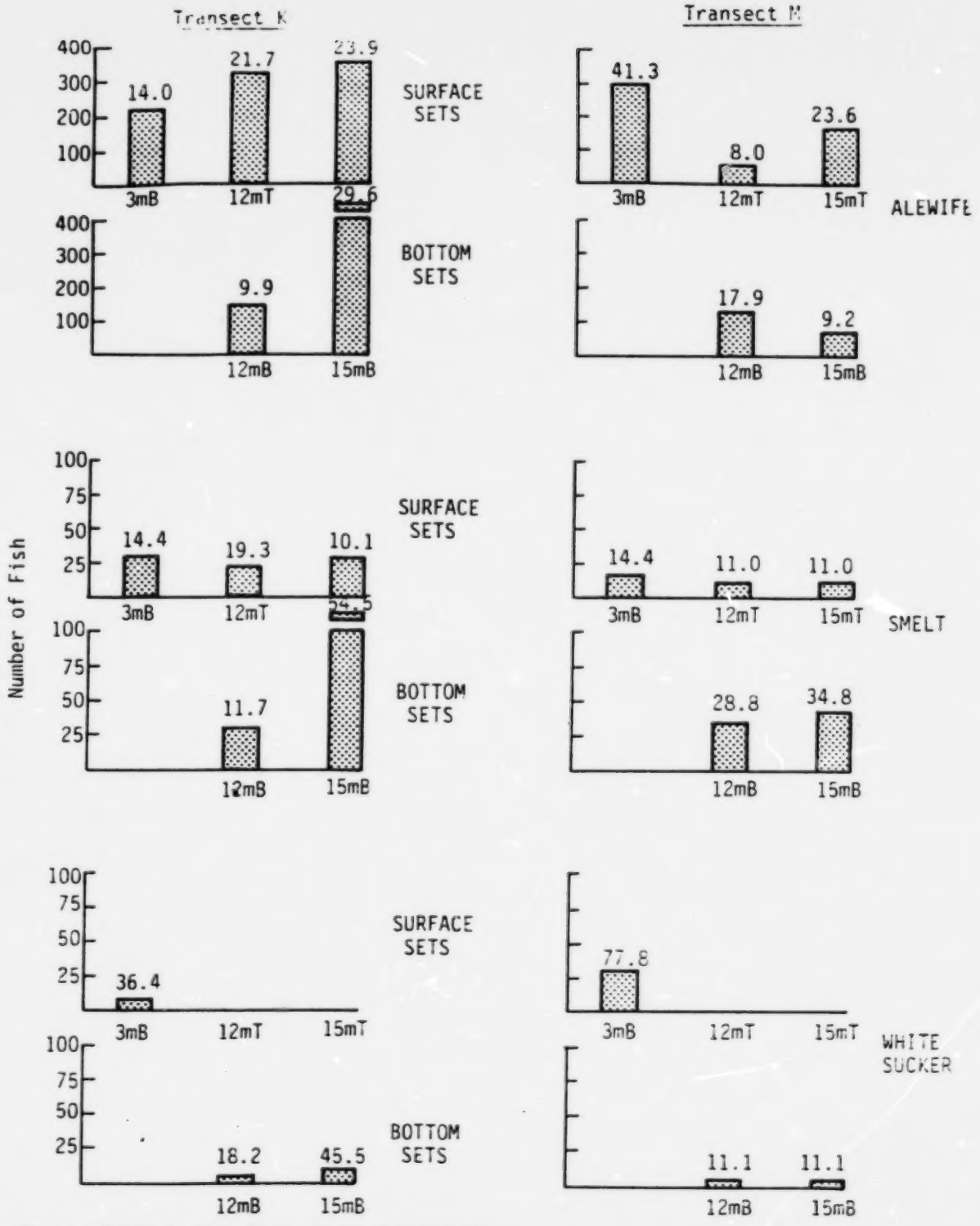

Note: Numbers over bars are % composition

FIGURE 3-15

DEPTH DISTRIBUTION OF 3 DOMINANT FISH SPECIES TAKEN IN GILL NETS ON TRANSECTS K AND M - WESLEYVILLE GS A - 1978

145635 RD

taken at the other transects in October. When the data were subjected to two-way analysis of variance it was found that the October and November alewife abundances were similar and significantly lower than all other months. The peak September catch was found to be significantly higher than all other sampling months. The high August catch (51 fish/gill net) was the result of a high degree of variance in catches across transects, not significantly different than the catches in May, June and July.

Abundances of smelt (a typical spring spawner) were found to be significantly higher in the spring months. The application of two-way analysis of variance and multiple range testing revealed that catches in May, June, July and August were significantly higher than the numbers caught in September, October and November. CUE values for smelt peaked in August (20 fish/gill net) and probably reflected the migration of these fish into deeper water following the June spawning period.

Abundances of white sucker in September with a CUE value of 5 fish/gill net were significantly higher than abundances in all other months and correlated well with this fall spawner.

Experimental gill nets were set on the bottom at the 3 m depth and at the surface and bottom at depths of 12 and 15 m on transects K and M to define fish distribution both offshore and with depth.

Significant differences in the numbers of alewife taken at transects K and M were noted (Appendix 3-19a, Table 3-51). A total of 1491 alewife were caught on transect K while only 726 alewife were taken at transect M.

On transect K 53.5% of the alewife catch was taken at a depth of 15 m with the greatest proportion (29.6%) caught in the bottom nets (Figure 3-15). Forty-one per cent of a total of 726 alewife taken on transect M were taken at the 3 metre bottom depth, while 26% were taken in surface and bottom nets at the 12 m sampling depth. The results of analysis of variance indicated that no significant differences in the depth distribution of alewife were noted between transects K and M. The August gill net catches for both transects K and M (458 and 595 fish respectively) were found to be significantly higher than gill net catches in all other months (Table 3-51).

Numbers of smelt taken in gill nets at transects K and M were found to be significantly different following analysis of variance (Appendix 3-19a). Gill nets at transect K caught a total of 257 smelt while transect M had a total of only 118 smelt.

The 12 and 15 m bottom sets at transects K and M accounted for 66.2 and 63.6% of the total catch respectively with the greatest proportion taken in bottom gill net sets at the 15 m depth (54.5 and 34.8% respectively). Upon analysis of variance catches

TABLE 3-51

SPATIAL AND TEMPORAL DISTRIBUTION OF GILL NET CATCHES OF ALEWIFE, SMELT AND WHITE SUCKER ON TRANSECTS K AND M MISSISSAGA GS 'A' - 1978

ALEWIFE

Sampling Location	TRANSECT K							
	M	J	J	A	S	O	N	Totals
3 m B	14	17	2	112	10	36	0	221
12 m T	7	73	111	16	4	113	0	324
12 m B	6	2	11	72	4	52	0	147
15 m T	2	38	94	29	0	194	0	357
15 m B	9	7	17	239	4	146	0	432
Totals	38	137	235	468	32	581	0	1491

SMELT

Sampling Location	TRANSECT K							
	M	J	J	A	S	O	N	Totals
3 m B	13	8	0	0	10	6	0	37
12 m T	1	10	9	0	0	4	0	24
12 m B	1	6	2	12	2	5	0	30
15 m T	1	12	9	2	0	4	0	26
15 m B	0	21	17	88	0	5	2	140
Totals	26	57	37	102	12	24	2	257

WHITE SUCKER

Sampling Location	TRANSECT K							
	M	J	J	A	S	O	N	Totals
3 m B	4	0	1	2	1	0	0	8
12 m T	0	0	0	0	0	0	0	0
12 m B	0	0	0	1	2	0	1	4
15 m T	0	0	0	0	0	0	0	0
15 m B	0	0	0	0	0	6	1	10
Totals	4	0	1	3	3	6	1	22

Sampling Location	TRANSECT M							
	M	J	J	A	S	O	N	Totals
3 m B	21	2	0	271	5	0	1	300
12 m T	4	1	0	52	1	0	0	58
12 m B	0	0	0	118	0	1	0	119
15 m T	6	1	0	149	15	0	0	171
15 m B	15	17	0	35	1	0	0	68
Totals	46	21	0	625	22	1	1	716

Sampling Location	TRANSECT M							
	M	J	J	A	S	O	N	Totals
3 m B	17	5	0	0	0	0	0	22
12 m T	1	12	0	0	0	0	0	13
12 m B	2	5	0	25	1	0	0	33
15 m T	1	11	0	0	0	1	0	13
15 m B	5	9	3	22	1	0	1	41
Totals	26	42	3	47	2	1	1	124

Sampling Location	TRANSECT M							
	M	J	J	A	S	O	N	Totals
3 m B	12	3	1	10	1	0	1	28
12 m T	6	0	0	0	0	0	0	6
12 m B	1	0	0	0	2	0	1	4
15 m T	0	0	0	0	0	0	0	0
15 m B	0	0	0	0	1	0	1	2
Totals	19	3	1	10	4	0	3	40

in the 15 m bottom sets were found to be significantly larger than smelt abundances at all other depths (Appendix 3-19b).

August catches of smelt, with 102 taken at transect K and 48 at transect M, (Table 3-51) were found to be significantly higher than fish catches on all other months.

A total of 22 white suckers were taken on transect K while 36 were caught on transect M. When these white sucker catches were submitted to analysis of variance, no significant difference in fish catch was found between the two transects. On transect K the greatest percentage of the white sucker catch was taken in the 15 m bottom gill nets (45.5%) (Figure 3-15). The 12 and 15 m bottom gill net sets collectively accounted for 63.7% of the total white sucker catch. No fish were taken in surface gill nets at the 12 and 15 m sampling contours, but 36.4% were taken in the 3 m bottom gill nets. On transect M 77.8% of the total catch was taken in the 3 m bottom gill nets.

In terms of temporal variability analysis of variance indicated that the white sucker catches at transects K and M did not significantly change over the seven-month sampling period (Table 3-51 and Appendix 3-19a).

Based on gill net results, it was apparent that suckers were most abundant inshore (3 m), smelt were most abundant offshore (15 m), and alewife were abundant at all depths. Alewife were the only species occurring to a great extent in offshore surface waters.

Trap Nets

A total of 659 fish were taken in trap nets, of which 332 or 50.4% were white sucker (Table 3-49). Brown bullhead made up 17.5% of the total trap net catch, while alewife comprised 16.8% of the total catch. Catch per unit effort values for alewife ranged from 0.1 to 2.5 fish per trap net, while values for brown bullhead varied from 0.5 to 1.4 fish/trap net (Figure 3-16). White sucker catch per unit effort values ranged from 0.4 to 6.5 fish/trap net.

Numbers of white sucker caught in May, June and July were found to be significantly higher than abundances for the balance of the sampling period (Appendix 3-20(a), Figure 3-16). These spring peaks in white sucker numbers corresponded to the early May to early June spawning period. On-site observations during this period confirmed the presence of white sucker in shallow water along the shoreline. Ripe white sucker were also dip netted in the Central Marsh. The maximum lake catch per unit effort occurred in May with 6.5 fish/trap net.

No significant difference in brown bullhead numbers was noted from May to November. Alewife abundances were found to be significantly higher in August compared to the other sampling months.

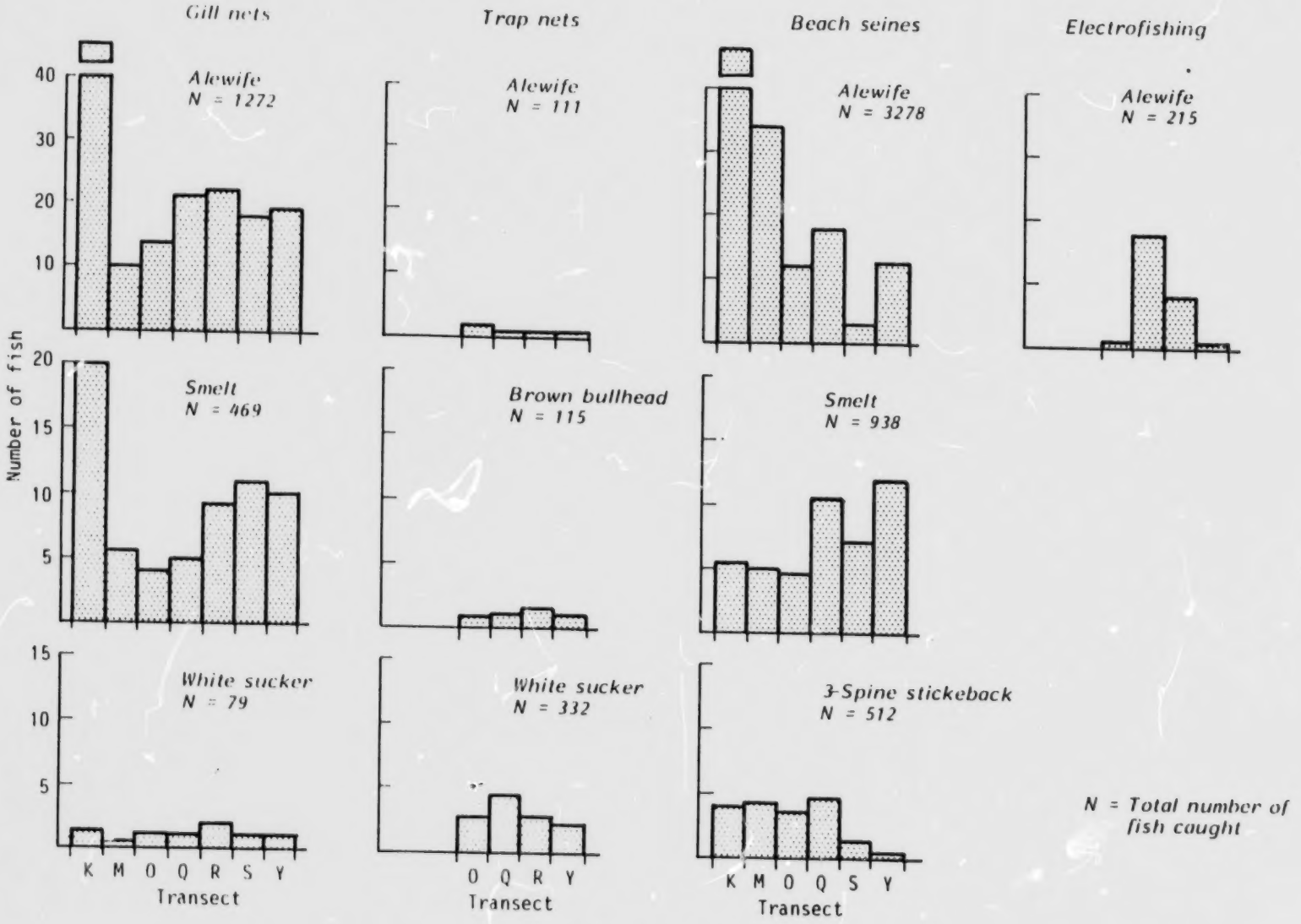

FIGURE 3 - 16

SPATIAL VARIATION IN CATCH PER UNIT EFFORT FOR DOMINANT FISH SPECIES TAKEN IN FOUR GEAR TYPES - WESLEYVILLE A GS - 1978

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Analysis of variance revealed no significant difference in catches of the three dominant species among the four transects sampled [Appendix 3-20(a)].

Beach Seines

A total of 5171 fish was taken in beach seines on six transects with alewife making up 63.4% (3278 fish) of the total catch (Table 3-49). Smelt were second in numerical importance with 18.1% of the total catch, while threespine stickleback comprised 9% of the beach seine catch. Collectively, these three species made up 91.4% of the total beach seine catch.

The highest catch per unit effort for alewife occurred on transect K with 77 fish/beach seine. Catch per unit effort showed a more or less progressive decrease from transect K eastward to transect S (Figure 3-16). Despite the high abundance of alewife on transect K, analysis of variance revealed that no significant differences in alewife abundances were evident among transects because high variability occurred among replicate beach seines.

July and August alewife abundances were significantly higher than all other months [Appendix 3-20(b)]. Catch per unit effort values in July and August were 90 and 79 fish/beach seine, respectively. The September catch per unit effort value for beach seines corresponded with the peak abundance in alewife catches in gill nets in the same month. The number of alewife taken in beach seines in July was six times higher than those for gill nets, while the August catch per unit effort in beach seines was considerably less than the same month's catch in gill nets. Beach seining was conducted from the shoreline to a depth of approximately 2 metres, while most of the gill nets fished in 12 to 15 metres of water. Based on the relative positions of these two gear types, it appeared that alewife migrated into shallow water in July, presumably to spawn and, having spawned, moved out into deeper waters in August.

Graham (1956), as reported by Scott and Crossman (1973), observed that adult alewives left inshore water immediately after spawning, most migrating to deep water some time in August. Graham went on to state that alewife appeared in water 150-300 feet deep (46 m - 92 m) about mid September, reaching maximum abundance by December and remaining to overwinter in deep water until March. The large catch per unit effort values for alewife in both beach seines and gill nets in September indicated that migration to profundal zones probably occurred in early October at the Wesleyville site.

No significant differences in smelt or threespine stickleback abundances in beach seines were noted among transects (Figure 3-16). However, abundances of smelt were significantly higher in May (40 fish/beach seine) compared to other sampling months. A catch per unit effort value of 10 fish/beach seine in July was found to be significantly higher than all other months except May.

Threespine sticklebacks generally spawn in June or July and build nests on the bottom, preferably on a sandy area in shallow water (Fish, 1932) as reported by Scott and Crossman (1973). Of a total of 533 threespine sticklebacks taken in all gear types (Table 3-49), 96% were taken in beach seines in shallow water (less than 2 m). Shallow water areas at the Wesleyville site were predominantly silt, clay or sand, and, as a result, probably provided a suitable substrate for nest building. The two marshes adjacent to Wesleyville 'A' would provide ideal spawning habitat. The results of analysis of variance indicated that stickleback abundances in May (13.5 fish/beach seine) were significantly higher than all other months (Figure 3-15). Also, numbers taken in June (12.5 fish/beach seine) were significantly higher than abundances in ensuing months. These May and June abundances correlated well with the spawning period for this species.

Electrofishing

A total of only 263 fish was taken by electrofishing of which 81.7% were alewife (Table 3-49). Transect Q (in closest proximity to construction activities) possessed the highest catch per unit effort of 18 fish/electrofishing run (Figure 3-20), however, analysis of variance indicated that no significant differences among transects existed [Appendix 3-20(c)]. In terms of temporal variation, abundances of alewife showed an increase from May (3.0 fish/run) to July with 6.8 fish/run. As was seen for the beach seine results, the catch per unit effort for alewife by electrofishing in August (0.2 fish/run) was low compared to values for July and September. July and September catch per unit efforts were found to be significantly higher than other months.

3.6.3 Acoustic Fish Census

The acoustic fish census was conducted in an area encompassing the Wesleyville GS 'A' proposed intake location. Acoustic census fish densities (counts/10 000 m^3) for each of the transects run at Wesleyville GS 'A' as well as summaries for selected bottom depth ranges of vertical fish distributions for both day and night runs on these data are contained in Appendices 21 and 22. Day and night runs were conducted on August 1, September 20 and November 15 while a day run only was done on December 18.

Horizontal Distribution

The results of the daytime fish census on August 1 indicated a heterogeneous distribution of fish densities parallel to shore between the 5 and 10 m depth contours (Figure 3-17). In the vicinity of the proposed intake location (10-20 m depth contours) a denser (>3000 fish/hectare) more homogeneous fish density pattern was observed. Densities beyond the 20 m depth contour took on a heterogeneous pattern again. At night, the entire census area was considerably more homogeneous with greater

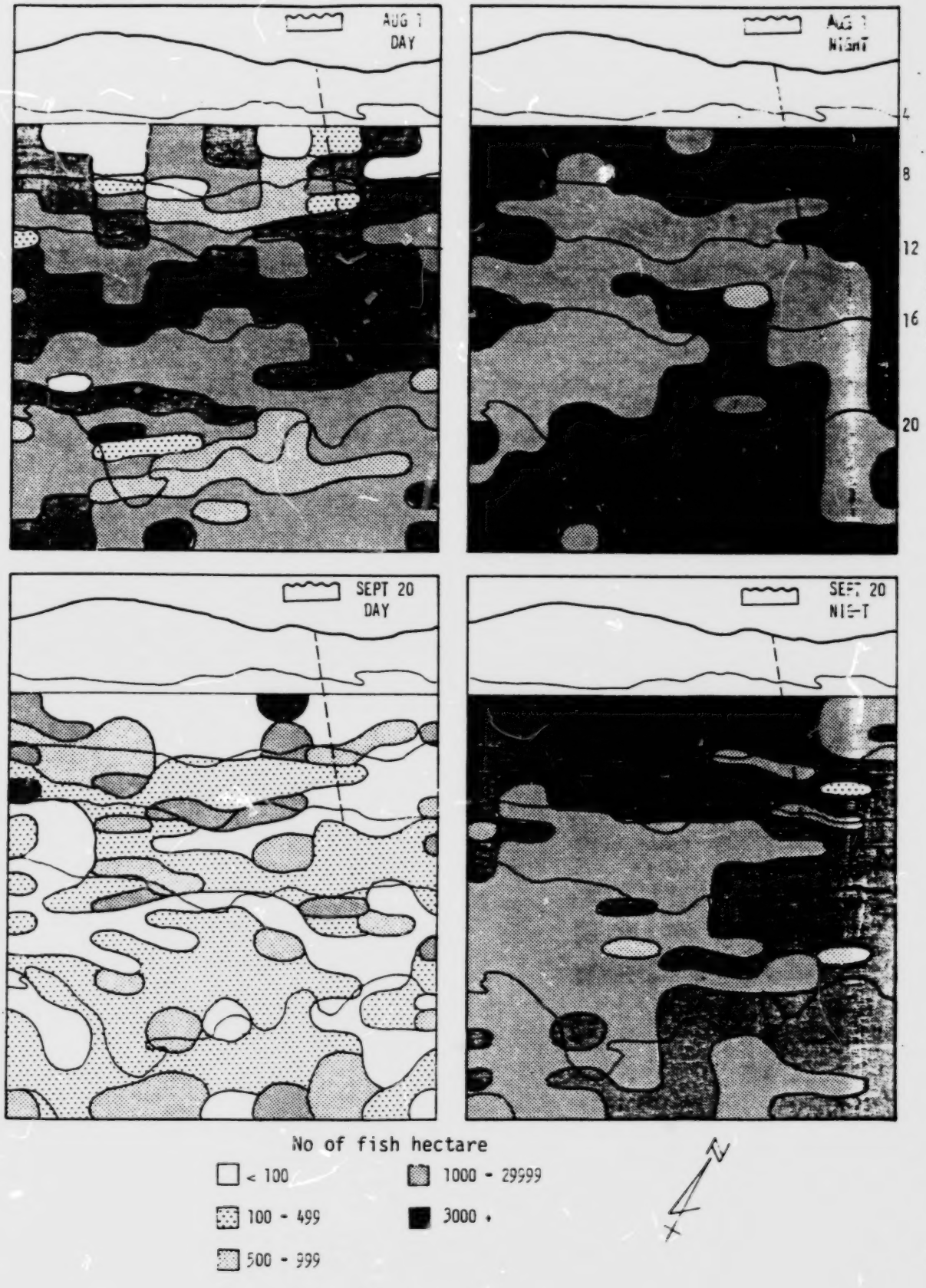

FIGURE 3-17

DISTRIBUTION OF FISH AT WESLEYVILLE (RESEARCH SITE C1)
AS DETERMINED BY ACOUSTIC CENSUS - SUMMER, 1978

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overall fish densities as compared to the daytime census. Fish densities were more evenly distributed both alongshore and in a nearshore to offshore direction. The increase in fish densities at night, particularly in the offshore half of the sample grid, suggested inshore movement of fish from further offshore.

The day and nighttime fish distributions on September 20 showed the same patterns that were evident on August 1 except that the daytime densities on September 20 were considrably smaller. Intake location daytime fish densities were 100-499 fish/hectare while the nighttime densities were 3000 + fish/hectare. Day and nighttime fish densities on November 15 and daytime densities on December 18 were considerably smaller than densities found on August 1 and September 20 (Figure 3-18). This trend was particularly evident for the nighttime census. Fish densities at the intake location for both the day and nighttime census on November 15 was <100 fish/hectare while the daytime density on December 18 was 100-499 fish/hectare.

Vertical Distribution

In terms of vertical distribution the daytime census revealed that the majority of the fish were located along the lake bottom and primarily between the 5 to 15 m depth contours (Figure 3-19). On August 1 the highest concentration of fish (28.6%) was found at an average bottom depth of 5-7 m. Fish distributions on September 20 were concentrated at the 5-7 m (22.8%) and 21-23 m (34.4%) bottom depths. On November 15, 84% of the total fish densities were found at or near the bottom between 5 and 7 m depth contours during the daytime census. Fish distributions on November 15 were concentrated along the bottom and in the surface waters out to a depth contour of 21-23 m whereas on August 1 and September 20 fish were concentrated more along the bottom. Mean fish densities showed a decrease through the season from 256 fish/10 000 m^3 on August 1 to 25 fish/10 000 m^3 on November 15. Due in large part to the schooling behaviour of pelagic fish species, the daytime distributions were patchy.

The results of the nighttime census indicated that the fish were more homogeneously distributed throughout the water column. An apparent upward dispersal of fish was evident during the August 1 night census with higher percentages of the fish being found throughout the water column than was found for the daytime census. The mean density of fish at night (363/10 000 m^3) was found to be 29% higher than the daytime mean density (256 fish/10 000 m^3). A trend for fish to concentrate in the upper portion of the water column was evident on the September 20 nighttime census where 92.6% of the fish were found at a depth interval of 4-12 m.

The night census on November 15 did not have a fish distribution similar to previous night census dates in that the fish were more concentrated along the lake bottom in shallow water with very few fish being found in the surface waters along deep depth contours. Likewise, the November 15 night census mean fish

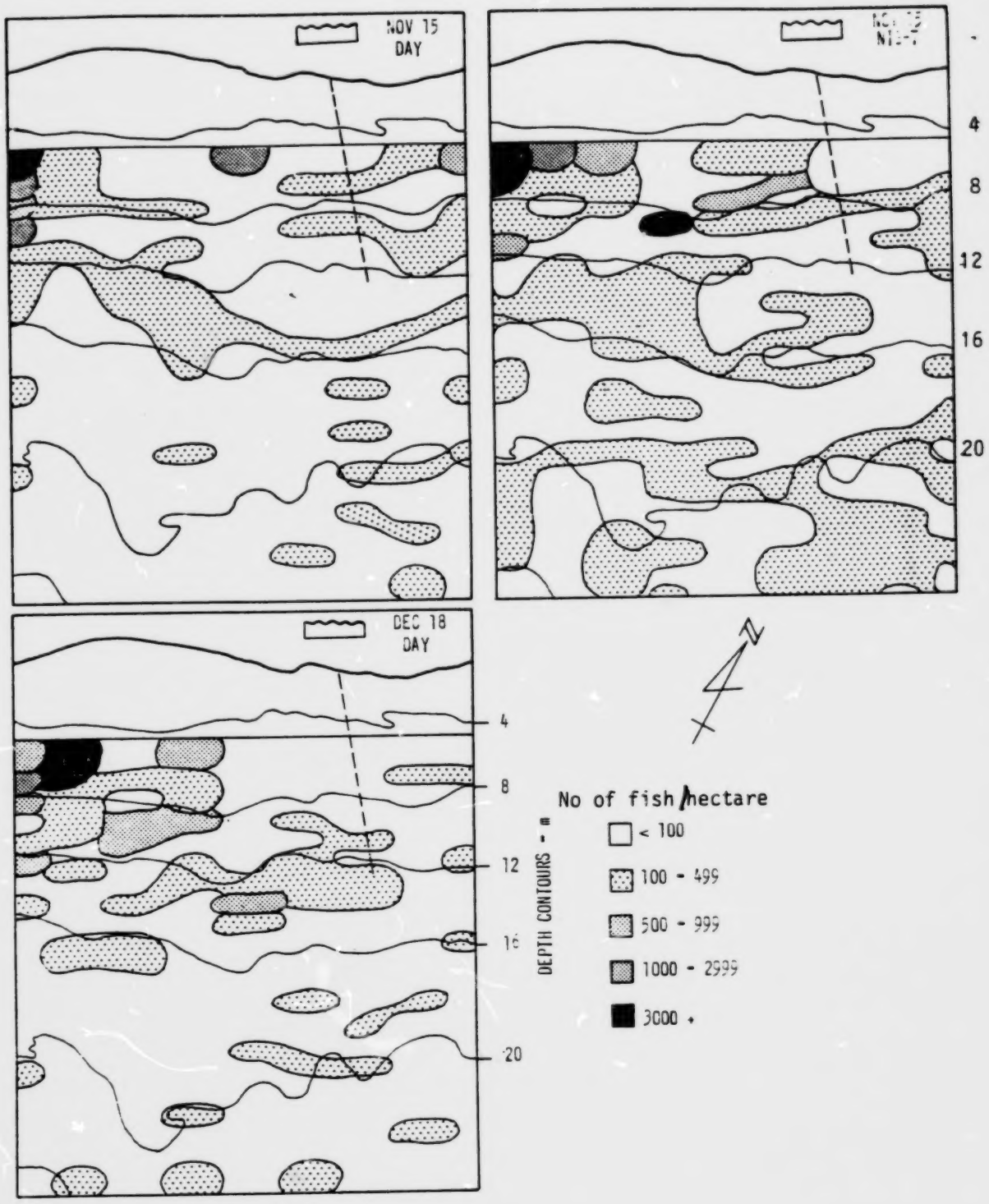

FIGURE 3-18

DISTRIBUTION OF FISH AT WESLEYVILLE (RESEARCH SITE C1)
AS DETERMINED BY ACOUSTIC CENSUS - FALL, 1978

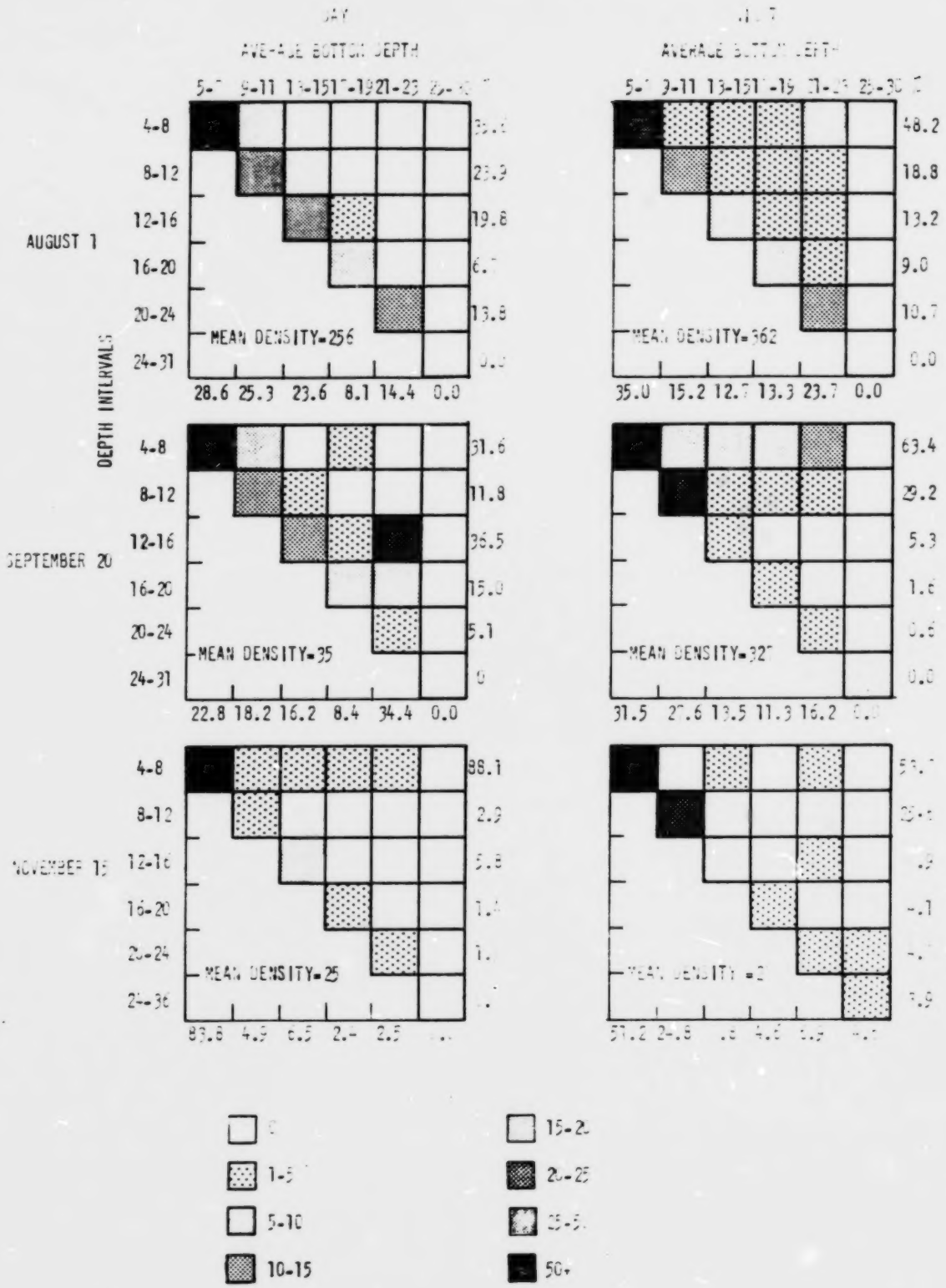

FIGURE 3-19

PER CENT VERTICAL DISTRIBUTION OF FISH
WESLEYVILLE GS A - 1978

density (27 fish/10 000 m^3) was considerably less than previous nighttime fish densities and virtually equal to the November 15 daytime census mean fish density (25 fish/10 000 m^3).

Fish species composition of acoustic targets was inferred from results of gill netting and trawling carried on in conjunction with the acoustic surveys (Table 3-52). Alewife appeared to contribute the bulk of the fish echoes in August and September. Adult alewife predominated in August, just after the spawning period (June-July), while juveniles (presumed age 1+) appeared to be more important in the sample area in September. Smelt appeared to account for a smaller, though significant, portion of the fish echoes in August, and were the most important species in November. Too few fish were caught in December to infer species composition.

3.6.4 Food and Growth

Food

A complete listing of the organisms found in fish stomachs along with the frequency of occurrence and estimated biomass are shown in Appendix 3-23.

A total of 413 stomachs from 13 fish species was examined for stomach contents (Table 3-53).

TABLE 3-53

FISH STOMACHS EXAMINED
AT WESLEYVILLE GS 'A' - 1978

Species	No of Stomachs Examined	Number Full
Threespine Stickleback	96	74
White Sucker	79	18
Alewife	67	4
Yellow Perch	58	56
Brown Bullhead	53	37
Rainbow Trout	23	18
Emerald Shiner	10	7
Smelt	10	0
Rock Bass	6	3
White Perch	6	4
Round Whitefish	3	3
Coho Salmon	1	1
White Bass	1	0
TOTALS	413	225

TABLE 3-52

PER CENT COMPOSITION* OF FISH CATCHES
MADE IN CONJUNCTION WITH ACOUSTIC FISH CENSUS

Species	Gill Net (Day and Night)				Trawl (Day Only)	
	Aug 1	Sept 20	Nov 15	Dec 18	July 28	Sept 21
Alewife:						
Adults	54	40	14			15
Juveniles	36	50				84
Total	90	90	14			99
Rainbow Smelt	9.4	8.9	64		50	1.0
Round Whitefish	<0.1		4.5	50		
Rainbow Trout			9.1			
White Sucker	0.3	0.9		50		
Shiner (Notropis sp)			9.1			
Stickleback	<0.1				50	
	1243	302	22	2	2	103

* Summarized from Ontario Hydro Research Division Reports No 79-363-K and No 79-434-K.

Of the 413 fish examined, 225 stomachs from 11 species contained identifiable food organisms. A total of 38 taxa was consumed and included 16 zooplankton taxa, 15 macroinvertebrate taxa, 4 species of fish as well as fish eggs, digested fish and 1 terrestrial invertebrate taxon. Four major categories of food were defined and the diets of the various fish species were described in terms of the per cent contribution of each category to the total identifiable biomass consumed (Figure 3-20). With the exception of rainbow trout and yellow perch, all fish collected for stomach analysis were taken in the spring and early summer (May to July).

Only four of the 67 alewife stomachs contained identifiable material. *Cyclops b. thomasi* was the most prominent food item consumed in terms of numbers of identifiable food organisms. Zoobenthic organisms were the main food source for threespine sticklebacks, emerald shiners, rock bass, white sucker and round whitefish and made up between 46.7% (threespine stickleback) and 100% (round whitefish) of the stomach contents. Chironomidae (larvae plus pupae) were the dominant zoobenthic food organism of threespine stickleback (26.1%), emerald shiners (68.3%) and white sucker (94.8%). Coleopterans dominated the stomach contents of rock bass and comprised 52.6% of the total stomach contents biomass while *Agrypnia sp* (Trichoptera) comprised nearly 100% of the biomass in the stomachs of round whitefish.

Almost all the yellow perch that were used for stomach contents analysis and length measurements were caught in the month of September. As shown in Figure 3-21 the majority (73.2%) of these fish were young-of-the-year. Yellow perch fed predominantly on zooplankton (64%), with the dominant prey being the copepod *Eurytemora affinis* comprising 54.9% of the total stomach content biomass (Appendix 3-25). Zoobenthos and fish were also part of the yellow perch diet. The dominant zoobenthic food organisms were the *Chironomidae* (14.2%) while digested fish made up 11.3% of the total stomach biomass. Digested fish were found in only two yellow perch stomachs (Appendix 3-23).

Rainbow trout, brown bullhead, white perch and coho salmon fed exclusively or almost exclusively on fish. A total of 73.7% of the stomach contents weight for brown bullhead was comprised of digested fish (44.1%) and fish eggs (29.6%) while 98.7% of the stomach contents weights for white perch were digested fish. Two species of fish, alewife and smelt made up 100% of the stomach contents of coho salmon. Alewife (77.6%) dominated the stomach contents of rainbow trout. Smelt and alewife were the two dominant species of fish caught at the Wesleyville site in 1978 and although the number of rainbow trout and coho salmon stomachs examined were small the importance of smelt and alewife to their diets is relatively obvious.

The most frequently consumed organism by all fish were Chironomidae, which were found in 55 of a total of 225 stomachs (22.7%) (Table 3-54). The copepod *Eurytemora affinis* was second in

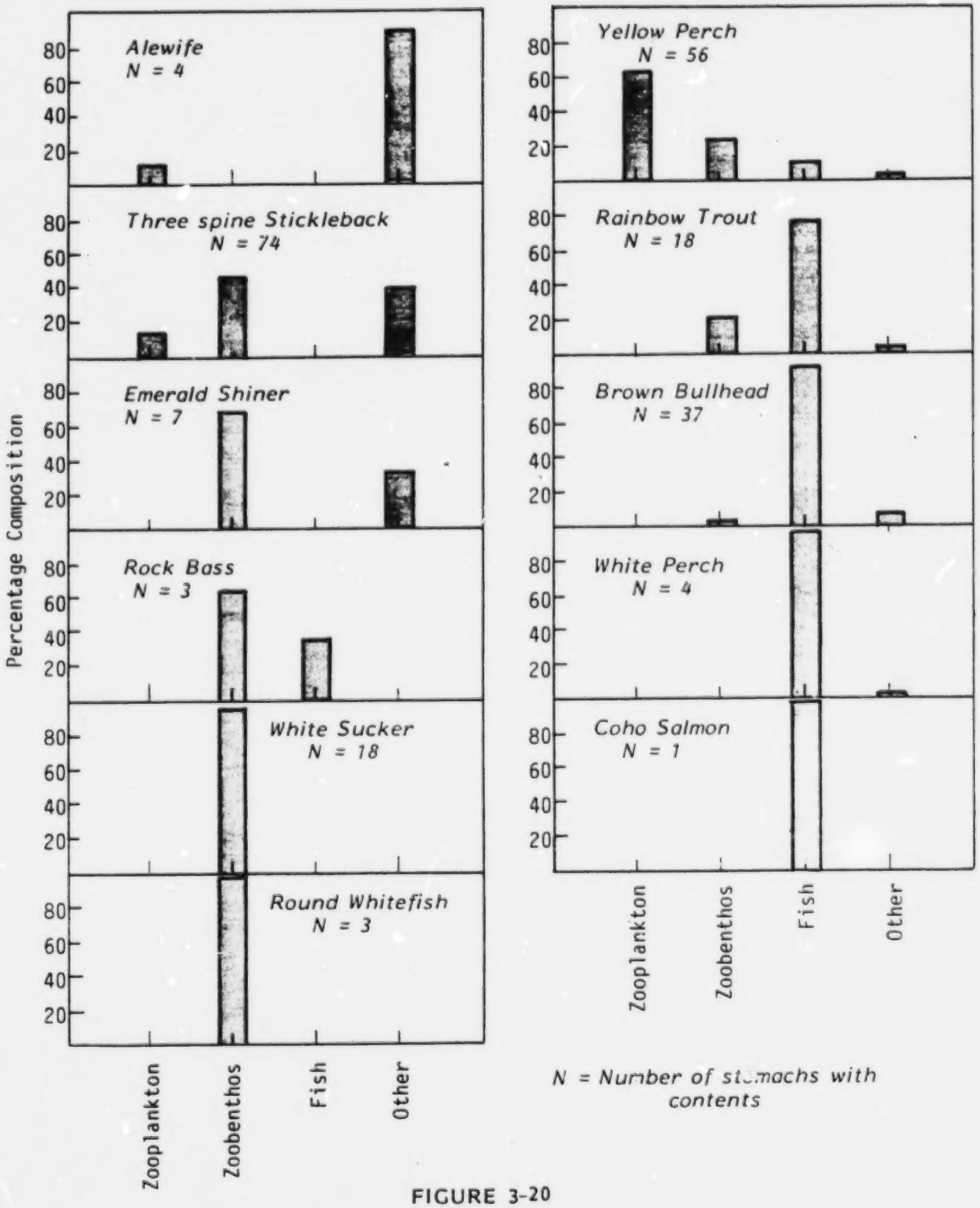

FIGURE 3-20

CONTRIBUTION OF MAJOR FOOD CATEGORIES
AS A PERCENTAGE OF TOTAL BIOMASS OF STOMACH CONTENTS
WESLEYVILLE GS A - 1978

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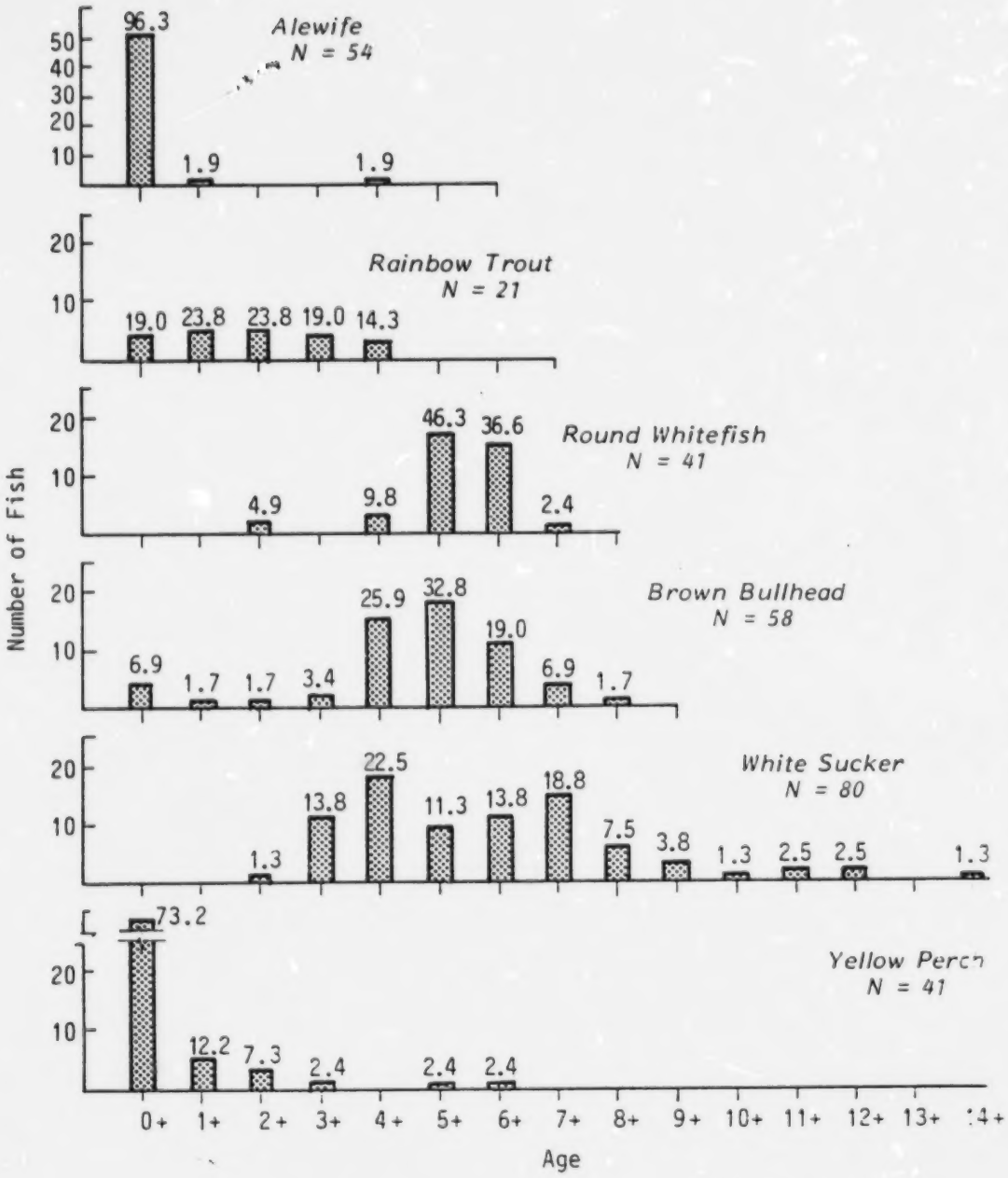

FIGURE 3-21
AGE DISTRIBUTION OF SELECTED FISH SPECIES
WESLEYVILLE GS A - 1978

TABLE 3-54

FREQUENCY OF OCCURRENCE OF DOMINANT ORGANISMS
FOUND IN FISH STOMACH CONTENTS
WESLEYVILLE GS 'A' - 1978

Organism	No of Stomachs In Which Organism Found	% Of Total No Of Stomachs	Total No Of Organisms Found In All Stomachs	Number Of Fish Speci
Chironomidae	51	22.7	1103	7
Eurytemora affinis	36	16.0	5486	5
Unidentified organisms	33	14.7	-	7
Bosmina longirostris	28	12.4	412	3
Cyclops b. thomasi	27	12.0	648	5
Orthocladinae	26	11.6	171	4
Alona spp	18	8.0	55	4
Copepods (unidentified)	18	8.0	198	4
Digested fish	10	4.4	5	5
Gammarus sp	8	3.6	70	4
TOTALS	225		8148	

frequency of occurrence, found in 16% (36) of the total number of stomachs with contents. Unidentified organisms and the cladoceran *Bosmina longirostris* occurred in 14.7% (33) and 12.4% (28) of the total number of stomachs respectively.

Growth

Age and length interval data for a total of 413 fish from 12 species are shown in Appendix 3-24. Six species of fish were taken in sufficient numbers to allow for reasonably good descriptions of age and fork length distributions (Figure 3-22).

The age structures of round whitefish, brown bullhead and white sucker showed a more or less normal distribution. Catches of rainbow trout were dominated by age 1+ and 2+ fish which collectively comprised 47.6% (10 fish) of the total of 21 fish caught. Ages ranged from 0+ to 4+ with the age 4+ fish representing the smallest proportion. The total of 41 round whitefish caught were dominated by age 5+ (46.3%) and 6+ (36.6%) fish.

Ages of brown bullhead ranged from 0+ to 8+ with age 5+ and 6+ fish dominating the catch with 32.8% and 25.9% respectively.

Alewife and yellow perch catches were heavily skewed towards age 0+ fish which made up 96.3% and 73.2% of the total catches respectively.

Alewife fork lengths ranged from 61 mm to 160 mm with the majority of the alewife catch (age 0+) having a range of 61 to 100 mm and a mean of 82.0 mm (Figure 3-22).

Growth rates of rainbow trout showed a steady increase from the age 0+ fish with a mean fork length measurement of 88.8 mm to a mean fork length of 188.4 mm for the age 2+ fish. A substantial increase in growth occurred between the 2+ and 3+ fish with the latter having a mean fork length of 590.8 mm and a range of 491 to 660 mm. The age 0+ to 2+ rainbow trout were probably stream fish that had recently migrated to Lake Ontario from tributaries whereas the age 3+ and 4+ fish apparently displayed accelerated growth during 1-2 years of lake residence.

Round whitefish appeared to grow fairly rapidly to age 4+, with a mean fork length of 429.0 mm. Mean fork length measurements of 4+, 5+, 6+ and 7+ fish ranged from 429.0 mm to 449.0 mm and indicated a slower growth rate (Figure 3-22).

Brown bullhead mean fork length measurements ranged from 62.0 mm (age 1+) to 265.0 mm (age 8+). Age 1+ and 2+ were represented by only one fish each and, as such, growth rates during this phase are not particularly reliable. A range of approximately 100 mm was found between the fork lengths of the age 2+ fish (177.0 mm), and the age 8+ from (265.0 mm) and thus represented a minimal year-to-year increase in growth as compared to the growth rate between the 1+ and 2+ fish.

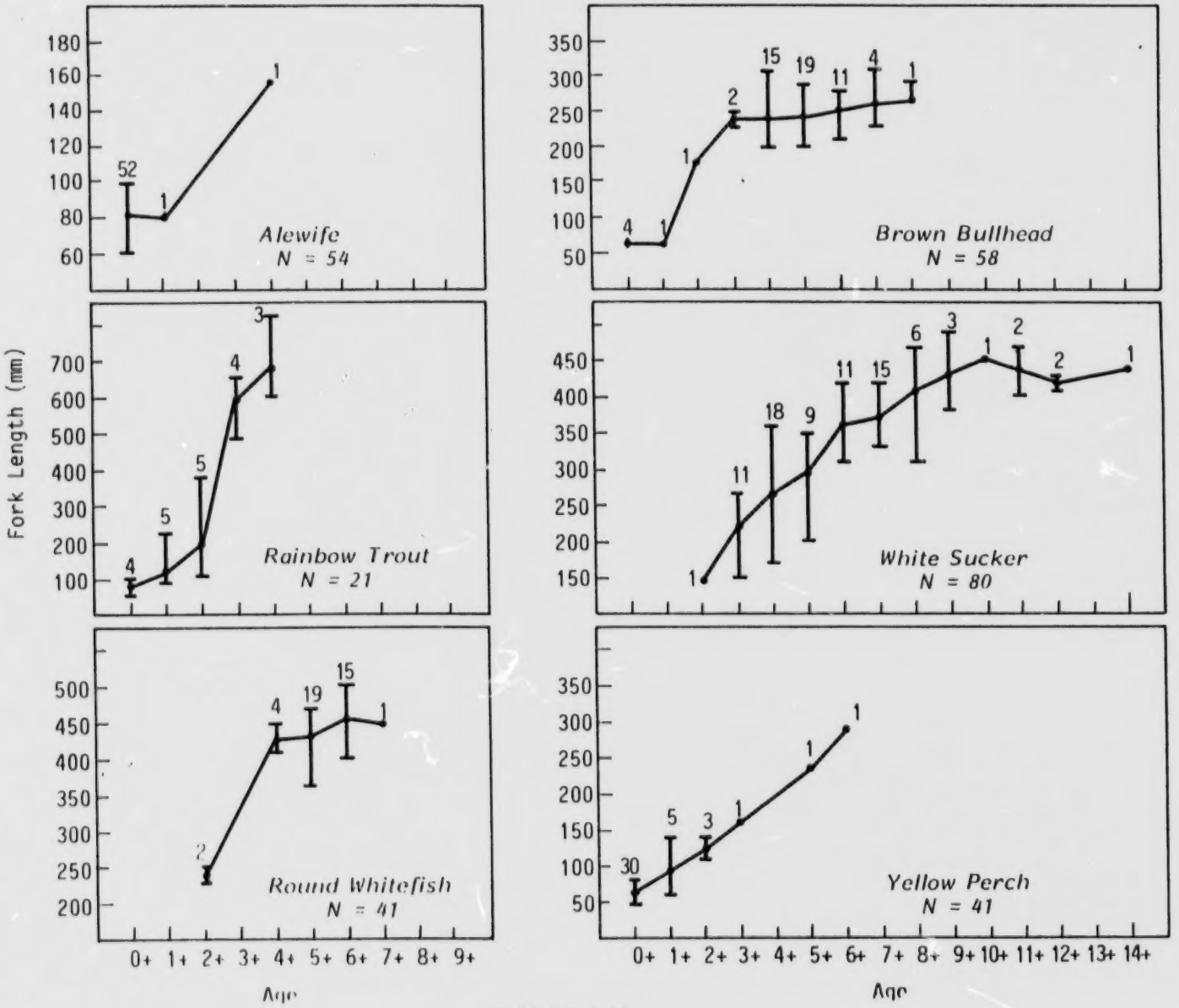

FIGURE 3-22

FORK LENGTH RANGES AND MEANS FOR SELECTED FISH SPECIES
WESLEYVILLE GS A - 1978

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White sucker fork lengths ranged from 141.0 mm for the age 0+ fish to a maximum of 453.0 mm for age 10+ fish and showed a steady increase in growth. White sucker in excess of 10+ were represented by relatively small sample sizes.

Yellow perch growth rates showed an almost linear increase with age from 62.4 mm (0+ fish) to 290.0 mm (6+ fish) with small sample sizes representing fish beyond age 1+.

Scale radii from 41 round whitefish and spine radii from 80 white suckers and 58 brown bullhead were measured and back calculated to yield the data contained in Appendix 3-25. Growth plots of three species are shown in Figure 3-23.

The 1973 year class for white sucker and the 1974 year class of round whitefish appeared to be larger at a given age than other year classes examined. Brown bullhead spawned in 1972 appeared to lag in growth behind the 71, 73, and 74 year classes over all ages.

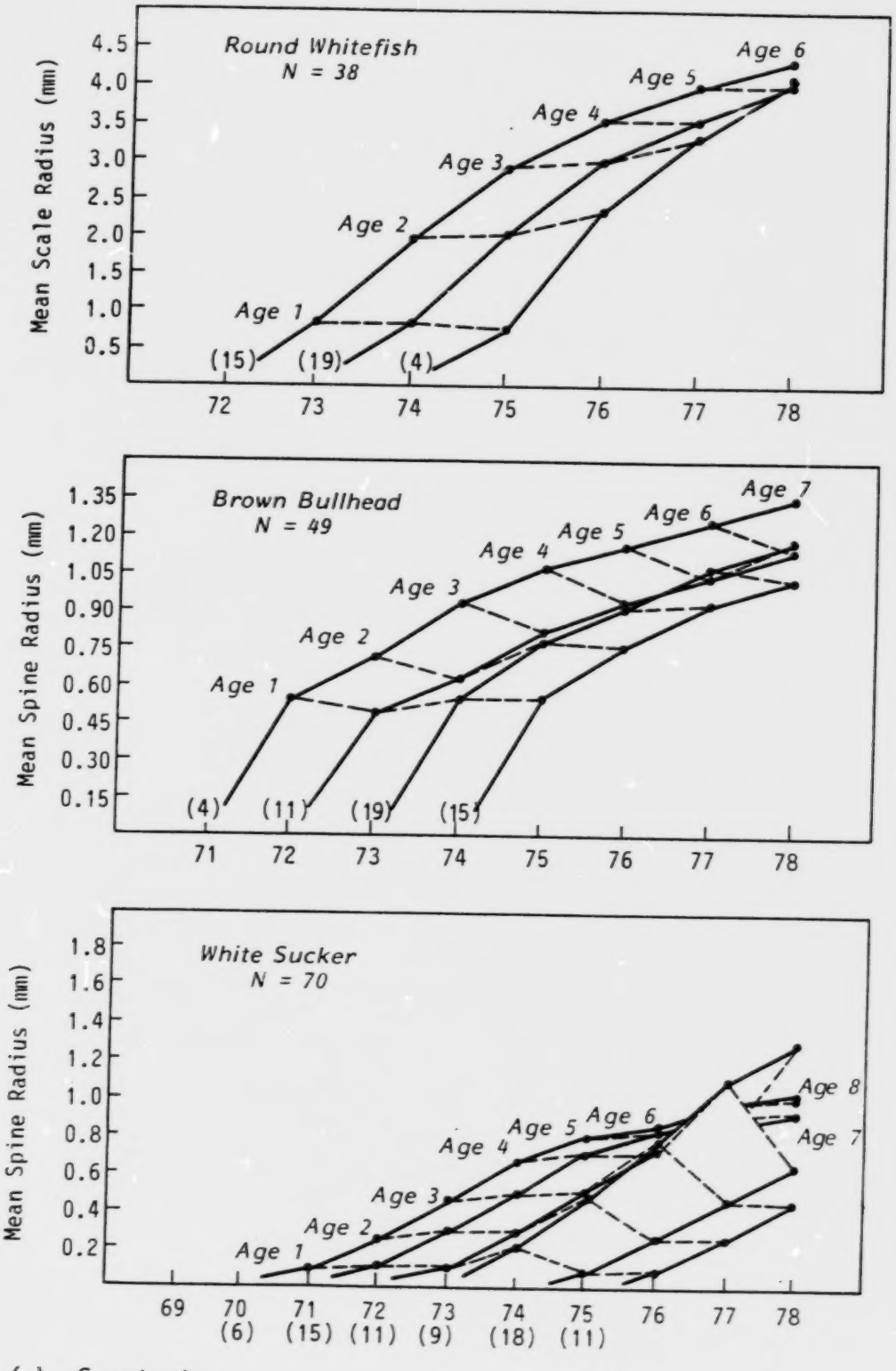
3.6.5 Whitefish Spawning Study

A total of 288 fish, including 16 species, were taken in gill nets between November 15 and December 7, in conjunction with the whitefish spawning study (Table 3-55). A complete listing of the gill net data is contained in Appendix 3-26.

TABLE 3-55

FISH SPECIES COMPOSITION IN GILL NETS
WHITEFISH SPAWNING STUDY
WESLEYVILLE GS 'A' - 1978

	Number Caught	% Composition
1. White Sucker	133	46.7
2. Smelt	47	16.3
3. Round Whitefish	40	14.0
4. Rainbow Trout	17	5.9
5. Slimy Sculpin	12	4.2
6. Alewife	10	3.5
7. Brown Trout	7	2.4
8. Chinook Salmon	4	1.4
9. Coho Salmon	4	1.4
10. Lake Chub	3	1.1
11. White Perch	3	1.1
12. Gizzard Shad	2	>1
13. Lake Trout	2	>1
14. Yellow Perch	2	>1
15. Northern Pike	1	>1
16. Rock Bass	1	>1
TOTAL	288	



( ) - Sample size

FIGURE 3-23

GROWTH OF VARIOUS YEAR CLASSES
FOR ROUND WHITEFISH , BROWN BULLHEAD
AND WHITE SUCKER
WESLEYVILLE GS A - 1978

White sucker was the most abundant fish species present at Wesleyville over the study period with 133 (46.7% of the total catch) taken in gill nets on the seven transects. Smelt were second in numerical abundance (16.3%), while round whitefish comprised 14.0% of the total catch with a total of 40 fisn.

Spatial Distribution

The catch of round whitefish in gill nets at all sampling locations was compared over the study period. In order to compare the areas on a quantitative basis, the gill net catch data was standardized per unit length of gill net mesh size. In accordance with the Ministry of Natural Resources standards, in the Bay of Quinte the data were adjusted to catch per 23 m (25 yards) overnight set. Standardized gill net catches are shown in Table 3-56.

TABLE 3-56

TEMPORAL AND SPATIAL DISTRIBUTION OF ROUND WHITEFISH IN GILL NET CATCHES WESLEYVILLE GS 'A' - 1978

	TRANSECT							
	Chrysler Pt			Powerhouse		Otty Pt		
Date	K	M	O	Q	S	Y	Total	% of Total
November 15	1	0	0	X	X	X	1	2.5
November 20	X	X	X	5	1	2	8	20.0
November 21	2	5	3	X	X	X	10	25.0
November 22	X	X	X	2	2	0	4	10.0
November 29	5	0	1	X	X	X	6	15.0
December 7	1	4	4	2	0	0	11	27.5
Total	9	9	8	8	3	2	40	
% of Total	22.5	22.5	20.0	20.0	7.5	5.0		

X = No data

The greatest overall catch per unit effort of round whitefish occurred on transect Q with a value of 0.28 fish per 25 yards of net. The four westernmost transects (K, M, O and Q) had higher

CUE values (ranges 0.19 to 0.28 fish/25 yards of net) than the eastern transects S and Y, with values of 0.09 and 0.07 fish per 25 yards of net. The paucity of whitefish caught on transects S and Y may be related to the type of substrate found on these transects. Transect S was comprised primarily of gravel and cobble (Figure 3-1) and should, in theory, be a suitable substrate for round whitefish spawning. It should be noted, however, that clay and silt were also found on this transect; and the presence of this particulate material may have precluded a suitably clean substrate for spawning. Transect Y, by the same token, was comprised almost entirely of sand, silt and clay, and could be unsuitable for round whitefish spawning.

Of the 8 mesh sizes used, the 10.2 cm (4.0") mesh size had the highest catch per unit effort with 0.52 fish per 25 yards of nets. The lowest mesh size CUE values were found at mesh sizes of 5.1 cm (2.0") and 11.4 cm (4.5") with values of 0.07 fish per 25 yards of net (Table 3-57).

No significant difference was found between the numbers of fish taken nearshore (19) and the 21 fish taken offshore ($t = 0.32$, $t\alpha\ 0.05, 10 = 2.23$) (Appendix 3-27). The highest CUE (0.38 fish/25 yards of net) occurred at the offshore site on transect Q, while the lowest CUE values, both inshore and offshore, occurred on transect Y with 0.06 fish per 25 yards of net.

Temporal Abundance and Gonad Maturity

Water temperature decreased from 7.3°C on November 15 to 3.3°C on December 7. The highest catch per unit effort occurred on November 21 with 0.376 fish per 25 yards of net at a temperature of 5.5°C (Table 3-58).

TABLE 3-58

TEMPORAL VARIABILITY OF ROUND WHITEFISH CATCH WITH TEMPERATURE WESLEYVILLE GS 'A' - 1978

	Nov 15	Nov 20	Nov 21	Nov 22	Nov 29	Dec 7
Temp (°C)	7.3	6.0	5.5	5.5	3.8	3.3
# RWF	1	8	10	4	6	11
CUE	0.045	0.250	0.376	0.107	0.188	0.172
# Nets	6	6	5	7	6	12

TABLE 3-57

ROUND WHITEFISH CATCH PER UNIT EFFORT IN GILL NETS
NOVEMBER 15 - DECEMBER 7, WESLEYVILLE GS 'A' -1978

Gill Net		LOCATION: Chrysler Pt K	Chrysler Pt N	Chrysler Pt O	Powerhouse Q	Powerhouse S	Otty Pt Y	Totals	Overall CUE
3.8 cm (1.5")	#RWF	1	0	0	1	1	0	3	0.12
	CUE	0.2	0	0	0.25	0.25	0		
5.1 cm (2.0")	#RWF	0	1	1	0	0	0	2	0.07
	CUE	0	0.2	0.2	0	0	0		
6.4 cm (2.5")	#RWF	0	1	0	1	0	0	2	0.08
	CUE	0	0.2	0	0.25	0	0		
7.6 cm (3.0")	#RWF	1	1	2	1	0	0	5	0.13
	CUE	0.2	0.2	0.4	0.25	0	0		
8.9 cm (3.5')	#RWF	5	0	2	1	1	0	9	0.32
	CUE	0.95	0	0.4	0.25	0.25	0		
10.2 cm (4.0")	#RWF	1	5	1	5	1	1	14	0.52
	CUE	0.2	0.95	0.2	1.25	0.25	0.25		
11.4 cm (4.5")	#RWF	1	1	0	0	0	0	2	0.07
	CUE	0.2	0.2	0	0	0	0		
12.7 cm (5.0")	#RWF	0	0	2	0	0	1	3	0.11
	CUE	0	0	0.4	0	0	0.25		
TOTALS Gill Net	#RWF	9	9	8	9	3	2	40	
	Length	3200	3200	3200	2400	2400	2400	16 800	
OVERALL CUE		0.22	0.22	0.18	0.28	0.09	0.07	0.18	

Gonad observations over the study period indicated a progressing maturity of both males and females. One female was partially spawned out on December 7. Likewise, 5 male round whitefish were in ripe condition on December 7. Water temperature on this date was 3.3°C. After this date, no further fishing or spawning observations were possible, due to extremely inclement weather conditions. The observations obtained, however, indicated that round whitefish spawning probably took place in the first or second week of December.

Mean fecundities for 4+, 5+ and 6+ females were: 8677 ± 4647, 15 819 ± 5187 and 15 086 ± 6440 eggs/fish, respectively (Appendix 3-28).

Age Structure of Round Whitefish

Forty-one round whitefish were aged with the results as shown in Figure 3-22. The 5+ and 6+ age fish represented the largest percentages of the forty-one fish aged with 46.3% and 36.6% of the total catch respectively. Ninety-five per cent (39) of the total catch were adult round whitefish. The 4+, 5+ and 6+ fish had mean fork lengths of 429, 439 and 462 mm respectively while the two 2+ fish had a mean fork length of 238 mm.

4.0 SUMMARY

The substrate composition at the Wesleyville GS 'A' site was found to be quite heterogeneous and was comprised of clay, silt, sand, gravel, pebble, cobble, boulders and bedrock. At the majority of the sampling locations mixtures of the various substrate types were found in widely varying proportions. Overall, the per cent composition of silt increased with depth whereas sand showed a decrease. Gravel showed a slight increase with depth. The per cent composition of pebble and cobble was uniform at the 6, 9 and 12 m sampling contours but decreased at the 3 and 15 m depths. The per cent composition of boulder remained uniformly small at all depths. The 1, 3 and 7 m spar locations on transect R showed distinct differences in dominant particle size and particle size distribution as compared to the other transects. The dominant mean particle size showed a progressive shift towards coarser material with an increase in depth. Transect R showed the exception to this trend with finer material being found at the 7 and 12 m sampling depths as compared to the mean particle sizes along their respective sampling contours on the other transects. This may have been the result of construction activities in close proximity to transect R.

Sedimentation was highest closest to shore particularly at transects Q and U and decreased with distance from shore. Construction activities and high fall winds at transect Q were responsible for the high nearshore sedimentation rate while a high inorganic sedimentation rate at transect U probably resulted from the deposition of inorganic material associated with high spring flows from the stream located immediately west of the transect.

Aside from sporadic upwellings, water temperatures in the spring remained low but increased sharply in July with the highest temperature occurring in August. Monthly temperature profiles taken at the 15 m depth (spar 47) at the intake location showed that isothermal conditions prevailed over most of the year with thermal gradients observed only in July and August. The data collected on the transect located 1.3 km west of the intake location coupled with the monthly profiles at the intake indicated that intake water for the period studied would range from a low of 2.5°C (April 9) to a maximum of 20.5°C (August 25).

Oxygen concentrations ranged from 9.8 to 13.5 ppm over the year with concentrations on any given sampling date being virtually homogeneous from the surface to the bottom.

Water transparency measurements taken at the 15 m depth contour on transects O, Q, R, S and Y were lowest on May 5 (mean of 2.8 m) and were highest on October 11 (mean of 4.6 m).

Generally, water parameters were indicative of relatively good water quality. Concentrations of most chemical parameters were found to be quite similar at the surface and bottom. A comparison of selected water quality parameters for 1969 and 1978 indicated that no substantial changes in water quality had taken place over a period of nine years. Seasonal variations were found in some standing crop and nutrient parameters.

Bacteriological analyses revealed little or no contamination. Many of the sediment sample trace metals were found in concentrations at or below the limits of detection.

The dominant phytoplankter found on February 21 was the diatom *Stephanodiscus niagarae*. Another diatom, *Asterionella gracillima* was dominant on May 12. The prominence of diatoms evident in February and May gave way to a dominance of the dinoflagellate *Cryptomonas sp* on August 23 and October 18. In February and October the spatial distribution of the phytoplankton was found to be homogeneous. On May 12 significant differences in the spatial distribution of the phytoplankton was found both among transects and among sampling contours. Significant differences in phytoplankton biomass were found among sampling contours on August 23. A progressive increase in mean phytoplankton biomass levels from February 21 to October 18 was evident.

Rotifers were the most abundant group of zooplankton present on all four sampling occasions. Both rotifer and crustacean zooplankton densities reached their maximum on October 18. *Keratella cochlearis* was the dominant rotifer on October 18.

The dominant rotifer species were heterogeneously distributed either among transects or among sampling contours or both on all four sampling dates. The dominant crustacean zooplankton were homogeneously distributed in the surface waters on February 21.

On May 12 and October 18 densities of the dominant crustacean zooplankton significantly decreased with distance from the shore while on August 23 and October 18 densities of the dominant zooplankton were significantly different among transects. On May 12 and August 23 the dominant zooplankton species densities were greatest at mid-depth while on October 18 densities were virtually homogeneous through the entire water column.

Biomass, numerical abundance, measures of evenness and richness of the zoobenthic community all reflected the high variability in the data. No significant differences in the estimated mean number of organisms collected among transects, depths or time of season were found as a result of the high variability.

No significant differences in species richness were found among transects. Significant depth differences were identified in August and October with fewer taxa being found at the shallower depths. Variations in evenness as measured by the application of the Shannon-Weiner index indicated a drop in species diversity in August and October as compared to June, probably as a result of the emergence of chironomids in June. High variability in zoobenthic biomass was evident both within depth strata and among transects. Higher mean biomass values were found consistently only at transect M while zoobenthos at the 12 m sampling contour accounted for the highest biomass.

The three most dominant groups were Diptera (47.0%), Oligochaeta (27.5%) and Mollusca (11.6%).

The distributions of the dominant taxa were not strongly related to substrate type. Depth, date and temperature more strongly influenced the zoobenthic assemblages formed. *Dicrotendipes spp* had a strong habitat preference for areas below 7 metres and were collected primarily in the spring and fall. *Orthocladius obumbratus* was prominent in June and was collected primarily at shallower depths. *Nais spp* was found primarily at depths shallower than 12 m while the greatest densities of *Stylaria lacustris* were found at 7 and 12 m.

A total of four attached algae taxa was identified from samples collected at eight shoreline and eight 3 m depth locations on three sampling dates. *Ulothrix zonata* was the dominant attached alga at shoreline locations in June while a mixture of *U. zonata* and *Cladophora glomerata* was present at the 3 m depth locations. In August *U. zonata* still dominated the easterly shoreline sampling locations with a co-dominance of *U. zonata* and *C. glomerata* at the westerly shoreline locations. *C. glomerata* dominated all 3 m depth locations in August and dominated almost all shoreline and 3 m depth contour locations in October.

Seven epiphytic algal species were found in association with periphytic growth on a sporadic basis.

No significant differences in shoreline and 3 m depth attached algal biomass were found on any of the three sampling dates.

Relatively few pelagic larval fish were taken at Wesleyville. Daytime larval fish tows from April to August produced primarily smelt and alewife larvae. Smelt larvae were the most abundant and were present primarily in June. Most smelt larvae were taken at the 7 m depth in daytime larval tows. Alewife larvae were most abundant in the last sampling period in August. Alewife were less abundant 1300 m offshore than at the two nearshore sampling contours. Densities were significantly greater in the 7 m bottom samples than all other sampling contours.

Nighttime samples taken in August were dominated by alewife and were found to have densities ten times greater on the average than densities in similar day samples collected one week earlier. Likewise at nighttime, proportionately more larvae were taken in surface samples at the 3 m contour (50%) and at the 7 m contour (34%).

Slimy sculpin larvae were taken in low numbers in July and August and were present only in bottom tows at the 7 m and 15 m contours.

A total of 9945 adult fish representing 35 species was collected at the Wesleyville 'B' site from May to December. The fish community was typical for Lake Ontario, in that it was dominated numerically by alewife (66%) and smelt (16.5). Other common species were threespine stickleback and white sucker.

Although some trends were suggested, no significant differences in the fish catch for all three dominant species among transects were seen. Expected seasonal or monthly trends were evident for all three species.

The distribution of fish on two transects (K and M) indicated that the greatest proportion of alewife numbers were located nearshore and offshore in the upper strata. Bottom sets at 12 and 15 m accounted for the greatest proportion (64.9%) of the smelt catch on transects K and M.

Acoustic fish census data indicated that fish densities were greatest in the nearshore zone particularly down to the 16 m depth. During the day, fish were concentrated near the bottom while at night they were more homogeneously distributed through the water column.

Zoobenthic organisms comprised the bulk of the diet for threespine stickleback, emerald shiners, rock bass and round whitefish. Fish (alewife, smelt) were the preferred prey of rainbow trout, brown bullhead, white perch and coho salmon. Yellow perch (juveniles) fed predominantly on zooplankton. Chironomidae were the most frequently consumed food organism by all fish.

Growth rates of round whitefish, brown bullhead and white sucker levelled off at ages 4+, 3+ and 10+ respectively. Yellow perch showed an almost linear increase in growth with age while the growth rates of rainbow trout appeared to increase with the shift from stream to lake residence.

The 1974 year class for round whitefish showed an increase in growth as compared to 1972 and 1973. The brown bullhead 1972 year class showed depressed growth at all ages as compared to other years. White sucker had a particularly strong 1973 year class.

The whitefish spawning study conducted from November 15 to December 7 yielded a total of forty round whitefish. The majority of the round whitefish were caught on the four most western transects while few round whitefish were taken east of the site on transects S and Y. No significant inshore-offshore differences in round whitefish catch were found.

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Volume

2

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WESLEYVILLE GS 'A'
PREOPERATIONAL AQUATIC
BIOLOGICAL STUDIES - 1978
VOLUME 2 - APPENDICES

Report No 82-456-K

J.D. Ellis
Biologist
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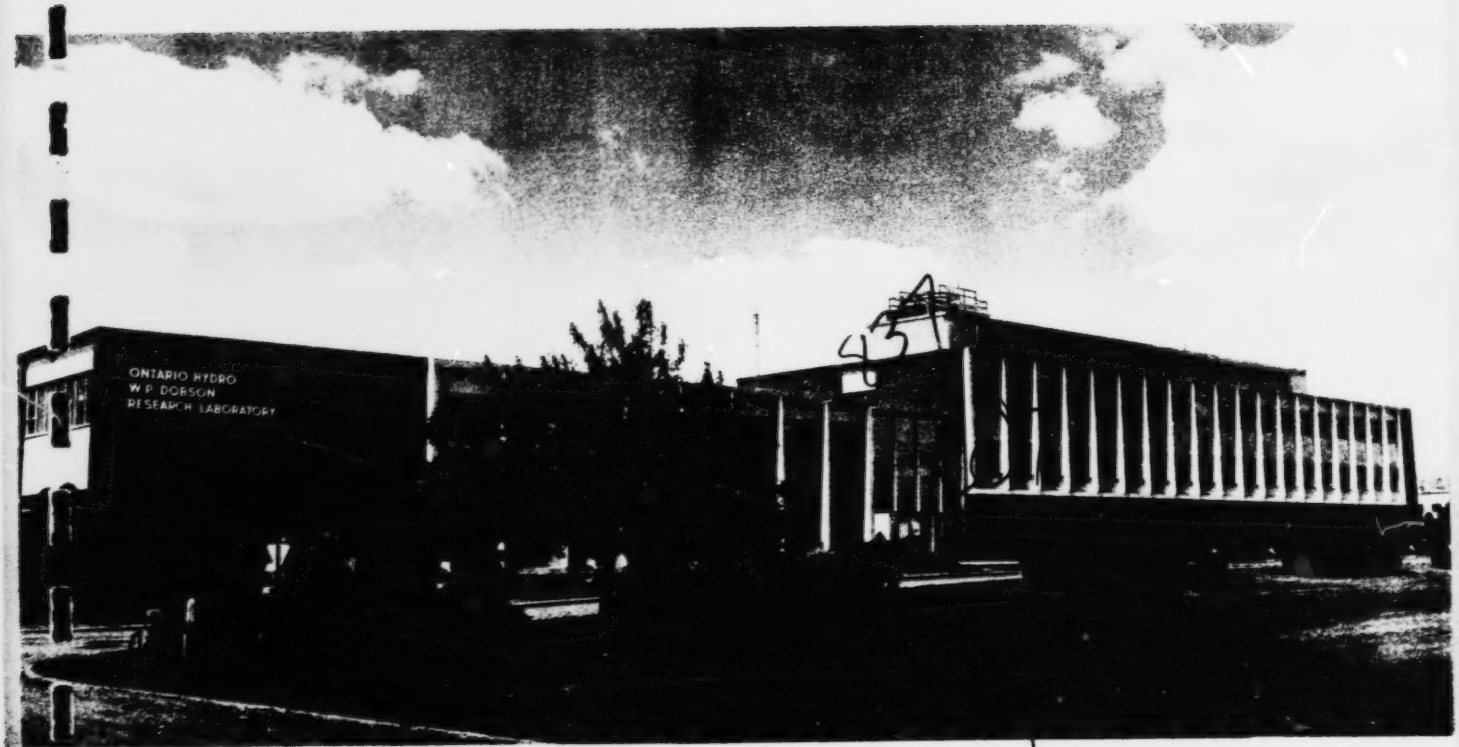

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WESLEYVILLE GS 'A' PREOPERATIONAL AQUATIC BIOLOGICAL STUDIES - 1978 VOLUME 2 - APPENDICES

Report No 82-456-K

J.D. Ellis
Biologist
Biological Research Section
Chemical Research Department

lab	file	date	report no.
740634-126-492	837.321WES	February 4, 1983	82-456-K

APPENDIX 3-1
PER CENT COMPOSITION OF LAKE BOTTOM SUBSTRATE
WESLEYVILLE GS A - 1978

	TRANSECTS											
Particle Size (m m)	E	G	I	K	M	O	Q	S	U	W	Y	Depth Contour
Silt							30					
Sand .064-2	50	100	75	100			30			100	80	3 Metres
Gravel 2-16	50											
Pebble 16-24						100	40		80			
Cobble 64-256									20		20	
Boulder 256			25									
Silt				20	30		5	10				
Sand .064-2		10	80	20	30	10	5			100	80	
Gravel 2-16						50						6 Metres
Pebble 16-64	50	60		50	40		60	90	80		20	
Cobble 64-256	50	20				40			20			
Boulder 256		10	20	10			10					
Silt	20			50	30		20	10		50		
Sand .064-2	40		60		30		20		10	40	70	
Gravel 2-16	40	30										9 Metres
Pebble 16-64		40	20	45	40	20	40	90	90		20	
Cobble 64-256		20	10			80					10	
Boulder 256		10	10	5			20			10		
Silt				80	40			15		70		
Sand .064-2	10		75		15	10				20	40	
Gravel 2-16		10				50	15					12 Metres
Pebble 16-64	10	40		20	25	40	50	85	100		60	
Cobble 64-256	80	40				10						
Boulder 256			25				15			10		
Silt			40					100		75	75	
Sand .064-2	15	20	40						10	20	25	
Gravel 2-16	35	20							60			15 Metres
Pebble 16-64	40	20							30			
Cobble 64-256		40										
Boulder 256	10		20							5		

APPENDIX 3-2
PARTICLE SIZE ANALYSIS OCTOBER 2 - OCTOBER 17 WESLEYVILLE GS A - 1978

Spar	Depth (m)	Held On Mesh	mm	ϕ	Raw Weight (gms)	% Aggregates	Corrected Weight (gms)	Cumulative Weight (gms)	Cumulative %	Individual %	Graphic Mean	Graphic Std Dev	Dry Weight (gms)	Ash Weight (gms)
25	1.0	30		0.8	0.0501	0	0.0501	0.0501	0.14	0.14				
		45		1.6	0.4767	0	0.4767	0.5268	1.44	1.30				
		60		2.0	30.6591	0	30.6591	31.1859	85.31	83.87	1.83	0.15	34.6845	34.5381
		80		2.5	0.9354	0	0.9354	32.1213	87.87	2.56				
		270		4.3	4.3965	0	4.3965	36.5178	99.90	12.03				
		Pan			0.0362	0	0.0362	36.5540	100.0	0.10				
26	3.0	16		-.25	0.0368	0	0.0368	0.0368	0.08	0.08				
		20		.3	0.0529	0	0.0529	0.0897	0.20	0.12				
		30		.8	0.1793	0	0.1793	0.2690	0.64	0.39				
		45		1.6	1.8920	0	1.8920	2.1610	4.73	4.14	1.48	0.43	35.8999	15.7884
		60		2.0	36.9373	0	36.9373	39.0983	85.63	80.89				
		80		2.5	1.3604	0	1.3604	40.4587	88.61	2.98				
		270		4.3	5.1665	0	5.1665	45.6252	99.92	11.31				
		Pan			0.0364	0	0.0364	45.6516	100.00	0.08				
27	7.0	8		-1.2	0.1352	0	0.1352	0.1352	0.69	0.69				
		12		-.75	0.1502	10	0.1352	0.2704	1.37	0.69				
		16		-.25	0.2971	0	0.2971	0.5675	2.88	1.51				
		20		.3	0.6844	0	0.6844	1.2519	6.35	3.47	1.33	0.65	20.5564	20.4263
		30		.8	1.6844	0	1.6844	4.9363	25.04	18.69				
		45		1.6	9.1663	0	9.1663	14.1026	71.54	46.50				
		60		2.0	2.659	0	2.659	16.7616	85.03	13.49				
		80		2.5	1.0798	5	1.0758	17.7944	90.23	5.20				
		270		4.3	1.9972	5	1.8973	19.6847	99.86	9.62				
		Pan			0.0282	0	0.0282	19.7129	100.00	0.14				
28	12.0	1/4		-2.5	1.0656	0	1.0656	1.0656	3.82	3.82	0.68	1.20	27.0035	26.8
		5		-2.0	0.8069	0	0.8069	1.8725	6.71	2.89				
		8		-1.2	0.8539	0	0.8539	2.7264	9.78	3.06				
		12		-.75	1.6506	0	1.6506	4.4770	15.70	5.92				
		16		-.25	1.2854	0	1.2854	5.6624	20.30	4.61				
		20		.3	2.9963	0	2.9963	8.6587	31.05	10.74				
		30		.8	4.14	1	4.0990	12.7577	45.75	14.70				
		45		1.6	8.7339	1	8.6466	21.4043	76.75	31.01				
		60		2.0	5.5186	5	5.2410	26.6453	95.54	18.79				
		80		2.5	0.4427	0	0.4427	27.0880	97.13	1.59				
		270		4.3	0.7574	1	0.7498	27.8378	99.82	2.69				
		Pan			0.0500	0	0.0500	27.8878	100.00	0.18				

APPENDIX 3-2 (Cont'd)

PARTICLE SIZE ANALYSIS OCTOBER 2 - OCTOBER 17 WESLEYVILLE GS A - 1978

Syar	Depth (m)	Held On Mesh mm	ϕ	Raw Weight (gms)	% Aggregates	Corrected Weight (gms)	Cumulative Weight (gms)	Cumulative %	Individual %	Graphic Mean	Graphic Std Dev	Dry Weight (gms)	Ash Weight (gms)
31	1.0	8	-1.2	0.0657	0	0.0657	0.0557	0.19	0.19				
		12	-.75	0.0692	0	0.0692	0. 249	0.42	0.23				
		16	-.25	0.0908	0	0.0908	0..157	0.72	0.30	1.80	0.13	21.3844	21.1204
		20	.3	0.1103	0	0.1103	0. .26	1.09	0.37				
		30	.8	0.1296	0	0.1296	0.4556	1.53	0.43				
		45	1.6	1.1302	0	1.1302	1.5858	5.31	3.79				
		60	2.0	25.7111	0	25.7111	27.2969	91.46	86.15				
		80	2.5	2.5482	0	2.5482	29.8451	100.00	8.54				
31	7.0	16	-.25	0.0516	0	0.0516	0.0516	0.10	0.10				
		20	.3	0.0546	0	0.0546	0.1062	0.21	0.11	2.50	1.06	42.357	41.1063
		30	.8	0.0599	0	0.0599	0. 661	0.33	0.12				
		45	1.6	0.2479	0	0.2479	0.414	0.82	0.49				
		60	2.0	27.0841	5	25.7299	26. 439	51.75	50.93				
		80	2.5	1.5954	1	1.5794	27.1233	54.88	3.13				
		270	4.3	22.8631	1	22.6345	50.3578	99.68	44.80				
		Pan		0.1614	0	0.1614	50.5192	100.00	3.19				
34	12.0	12	-0.75	0.0500	0	0.0500	0.0500	0.35	0.35	1.25	0.48	18.1663	18.2901
		16	-0.25	0.0401	0	0.0401	0.0901	0.62	0.28				
		20	0.3	0.4468	0	0.4168	0.5369	3.72	3.10				
		30	0.8	2.2901	0	2.2901	2.827	19.61	15.88				
		45	1.6	7.2505	10	6.5255	9. 525	64.87	45.26				
		60	2.0	5.4025	10	4.8623	14.2148	98.59	33.72				
		80	2.5	0.0831	20	0.0665	14.2813	99.05	0.46				
		270	4.3	0.1219	0	0.1219	14.4032	99.90	0.01				
		Pan		0.0148	0	0.0148	14.418	100.00	0.10				
37	1.0	12	-0.75	0.0278	0	0.0278	0.0278	0.18	0.18				
		16	-0.25	0.0454	0	0.0454	0.0732	0.47	0.29				
		20	0.3	0.0855	0	0.0855	0. 587	1.01	0.58				
		30	0.8	0.2692	0	0.2692	0.4279	2.72	1.71	1.62	0.23	56.7151	55.9592
		45	1.6	4.1302	0	4.1302	4.5581	29.02	26.25				
		60	2.0	10.4407	0	10.4407	14.9988	95.49	66.47				
		80	2.5	0.1454	10	0.1309	15. 297	96.32	0.83				
		270	4.3	0.6189	10	0.5570	15.4867	99.87	3.55				
		Pan		0.0208	1	0.0206	15. 073	100.00	0.13				

APPENDIX 3-2 (Cont'd)
PARTICLE SIZE ANALYSIS OCTOBER 2 - OCTOBER 17 WESLEYVILLE GS 'A - 1978

Spar	Depth (m)	Held On Mesh mm	ϕ	Raw Weight (gms)	% Aggregates	Corrected Weight (gms)	Cumulative Weight (gms)	Cumulative %	Individual %	Graphic Mean	Graphic Std Dev	Dry Weight (gms)	Ash Weight (gms)
38	3.0	16	-0.25	0.0369	0	0.0369	0.0369	0.12	0.12				
		20	0.3	0.0558	0	0.0558	0.0927	0.29	0.18				
		30	.8	0.1524	0	0.1524	0.2451	0.77	0.48	2.28	0.78	40.0875	40.0056
		45	1.6	0.4084	0	0.4084	0.6499	2.04	1.28				
		60	2.0	24.2183	0	24.2183	24.8682	78.00	75.96				
		80	2.5	0.3222	10	0.2900	25.1582	78.91	0.91				
		270	4.3	6.9643	5	6.6161	31.7743	99.66	20.75				
		Pan		0.1349	20	0.1080	31.8823	100.00	0.34				
40	12.0	5	-2.0	0.4807	0	0.4807	.9807	1.91	1.91				
		8	-1.2	0.4468	0	0.4468	.9275	3.69	1.78				
		12	-7.5	0.1081	0	0.1081	1.0356	4.12	0.43				
		16	-.25	0.1300	0	0.1300	.13	12.44	0.52	1.07	0.81	29.7043	29.6266
		20	.3	0.5570	0	0.5700	.70	14.71	2.27				
		30	.8	4.2292	1	4.2497	7.9497	31.60	16.89				
		45	1.6	11.8606	1	11.7420	19.6917	78.98	46.68				
		60	2.0	5.5475	10	4.9928	24.6845	98.13	19.85				
		80	2.5	0.1744	20	0.1395	24.824	98.68	0.55				
		270	4.3	0.2763	2	0.2210	25.045	99.56	0.88				
		Pan		0.1105	0	0.1105	25.1555	100.00	0.44				
43	1.0	5	-2.0	2.5996	0	2.5996	2.5996	7.17	7.17				
		8	-1.2	11.5136	0	11.5136	14.1132	38.93	31.76				
		12	-0.75	5.0535	0	5.0535	19.1667	52.87	13.94				
		16	-0.25	2.5843	0	2.5843	21.751	60.00	7.20	0.33	1.69	75.6520	75.1714
		20	.3	2.1495	0	2.1495	23.9005	65.93	5.93				
		30	.8	2.0680	0	2.0680	25.9685	71.64	5.70				
		45	1.6	4.2344	0	4.2344	30.2029	83.32	11.68				
		60	2.0	5.7709	0	5.7709	35.9738	99.24	15.92				
		80	2.5	0.1576	1	0.1560	36.1298	99.67	0.43				
		270	4.3	0.1186	0	0.1186	36.2484	100.00	0.33				
		Pan		0.015	0	0.0015	36.2499	100.00	0.00				
44	3.0	1/4	-2.5	1.3071	0	1.3071	1.3071	3.21	3.21				
		5	-2	0.6511	0	0.6511	1.9582	4.81	0.60				
		8	-1.2	4.1747	0	4.1747	6.1329	15.07	10.26				
		12	-0.75	4.4525	0	4.4525	10.5854	26.03	10.94				
		16	-0.25	3.5424	0	3.5424	14.1278	34.74	8.70	0.17	1.15	70.2486	70.0760
		20	.3	3.7477	0	3.7477	17.8855	43.94	9.21				
		30	.8	7.5656	0	7.5656	25.4511	62.53	18.59				
		45	1.6	13.3714	0	13.3714	38.8225	95.38	32.85				
		60	2.0	1.5230	0	1.5230	40.3455	99.13	3.74				
		80	2.5	0.432	10	0.1919	40.5374	99.60	0.47				
		270	4.3	0.1471	0	0.1471	40.6845	99.93	0.34				
		Pan		0.0269	0	0.0269	40.7114	100.00	0.07				

APPENDIX 3-2 (Cont'd)

PARTICLE SIZE ANALYSIS OCTOBER 2 - OCTOBER 17 WESLEYVILLE GS A - 1978

Spar	Depth (m)	Held On Mesh mm	ϕ	Raw Weight (gms)	% Aggregates	Corrected Weight (gms)	Cumulative Weight (gms)	Cumulative %	Individual %	Graphic Mean	Graphic Std Dev	Dry Weight (gms)	Ash Weight (gms)
45	7.0	12	-0.75	0.0508	0	0.0508	0.0508	0.09	0.08				
		16	-.25	0.0933	0	0.0933	0.1441	0.22	0.14				
		20	1	0.0669	0	0.0669	0.211	0.32	0.10				
		30	.8	0.4079	0	0.4079	0.6189	0.94	0.62	3.12	1.13	44.6172	44.4913
		45	1.6	0.3054	0	0.3054	0.9243	1.40	0.46				
		60	2.0	15.1585	0	15.1585	16.0828	24.36	22.96				
		80	2.5	1.2040	0	1.2040	17.2868	26.19	1.82				
		270	4.3	45.9308	0	45.9308	63.2176	95.76	69.58				
		Pan		2.7963	0	2.7963	66.019	100.00	4.24				
46	12.0	1/4	-2.5	0.2651	0	0.2651	0.2651	0.52	0.52				
		5	-2.0	0.4669	0	0.4669	0.732	1.43	0.91				
		8	-1.2	0.9675	0	0.9675	1.6995	3.32	1.89				
		12	-0.75	0.7556	0	0.7556	2.4551	4.80	1.48				
		16	-0.25	1.6051	0	1.6051	4.0602	7.94	3.14				
		20	1	1.7949	0	1.7949	5.8551	11.45	3.51				
		30	8	2.4537	0	2.4537	8.3088	16.24	4.80	2.00	1.35	49.9039	49.5798
		45	1.6	8.7833	0	8.7833	17.0921	33.42	17.17				
		60	2.0	22.5379	0	22.5379	39.63	77.48	44.06				
		80	2.5	0.3540	0	0.3540	39.9840	78.17	0.69				
		270	4.3	9.2259	0	9.2259	49.2099	96.21	18.04				
		Pan		1.9372	0	1.9372	51.1471	100.00	3.79				
47	15.0	5	-.2	0.8784	0	0.8784	0.8784	3.58	3.58				
		8	-1.2	0.0402	0	0.0402	0.9186	3.75	0.01				
		12	-0.75	0.0794	0	0.0794	0.998	4.07	0.32				
		16	-0.25	0.0699	0	0.0699	1.0679	4.36	0.29				
		20	0.1	0.1178	0	0.1178	1.1857	4.84	0.48	3.37	1.30	12.3816	12.0240
		30	0.8	0.1669	0	0.1669	1.3526	5.52	0.68				
		45	1.6	0.7602	0	0.7602	2.1128	8.62	3.10				
		60	2.0	2.1330	0	2.1330	4.2458	17.32	8.70				
		80	2.5	0.6485	0	0.6485	4.8943	19.96	2.64				
		270	4.3	13.9113	0	13.9114	18.8056	76.69	56.73				
		Pan		5.7154	0	5.7154	24.521	100.00	23.31				
49	1.0	16	-0.25	0.0536	0	0.0536	0.0536	0.22	0.22				
		20	0.1	0.0797	0	0.0797	0.133	0.55	0.33				
		30	0.8	0.3156	0	0.3156	0.4489	1.86	1.31	1.80	0.18	33.0790	33.0021
		45	1.6	1.7209	0	1.7209	2.1698	9.00	7.14				
		60	2.0	18.1042	0	18.1042	20.274	84.10	75.10				
		80	2.5	0.8205	0	0.8205	21.0945	87.51	3.40				
		270	4.3	3.0116	0	3.0116	24.1011	100.00	12.49				

APPENDIX 3-2 (Cont'd)

PARTICLE SIZE ANALYSIS OCTOBER 2 - OCTOBER 17 WESLEYVILLE GS A - 1978

Spar	Depth (m)	Held On Mesh mm	ϕ	Raw Weight (gms)	% Aggregates	Corrected Weight (gms)	Cumulative Weight (gms)	Cumulative %	Individual %	Graphic Mean	Graphic Std Dev	Dry Weight (gms)	Ash Weight (gms)
50	1.0	8	-1.2	0.0711	0	0.0711	0.0711	0.13	0.13				
		12	-0.75	0.0325	0	0.0395	0.036	0.19	0.06				
		16	-0.25	0.0588	0	0.0588	0.624	0.79	0.11				
		20	0.3	0.1828	0	0.1828	0.3452	0.62	0.33	2.30	0.78	72.6495	72.5134
		30	0.8	0.5761	0	0.5761	0.9213	1.66	1.04				
		45	1.6	4.2530	0	4.2530	5.743	9.32	7.66				
		60	2.0	35.8444	0	35.8444	41.0187	73.90	64.58				
		80	2.5	0.9938	5	0.9441	41.9698	75.60	1.70				
		270	4.3	13.5419	0	13.5419	55.5044	100.00	24.40				
51	7.0	8	-1.2	0.0456	0	0.0456	0.0456	0.73	0.73				
		12	-0.75	0.0371	0	0.0371	0.0827	1.33	0.60				
		16	-0.25	0.0136	1	0.0136	0.0963	1.55	0.22				
		20	0.3	0.0469	5	0.0446	0.1409	2.26	0.72	2.24	0.68	36.9289	36.8924
		30	0.8	0.0731	0	0.0731	0.2140	3.44	1.17				
		45	1.6	0.5176	5	0.4917	0.7057	11.34	7.90				
		60	2.0	2.0365	0	2.0365	2.7422	44.51	32.72				
		80	2.5	1.9957	5	1.8959	4.6381	74.51	30.46				
		270	4.3	1.5863	0	1.5863	6.2244	100.00	25.49				
52	12.0	5	-2.0	1.148	0	1.148	1.148	5.50	5.50				
		8	-1.2	1.7817	0	1.7817	2.9297	14.04	8.54				
		12	-0.75	0.7924	0	0.7924	3.7221	17.84	3.80				
		16	-0.25	0.6716	1	0.6649	4.387	21.02	3.19				
		20	0.3	2.0229	0	2.0229	6.4099	30.71	9.69	0.39	1.24	18.5919	18.4704
		30	0.8	5.7339	0	5.7339	12.1438	58.19	27.47				
		45	1.6	6.5346	5	6.2079	18.3517	87.93	29.75				
		60	2.0	2.3817	10	2.1435	20.4952	98.20	10.27				
		80	2.5	0.3107	0	0.3107	20.8059	99.69	1.49				
		270	4.3	0.0715	10	0.0644	20.8703	100.00	3.09				
53	15.0	5	-2	0.2123	0	0.2123	0.2123	0.88	0.88				
		8	-1.2	0.6325	0	0.6325	0.9448	4.50	2.62				
		16	-0.25	1.0405	0	1.0405	1.8853	7.82	4.32				
		20	0.3	1.4224	0	1.4224	3.3077	13.72	5.90				
		30	0.8	5.1401	0	5.1401	8.4478	35.05	21.32	1.03	0.63	-	-
		45	1.6	12.312	5	11.7154	20.1632	83.65	48.60				
		60	2.0	3.2412	5	3.0810	23.2442	96.43	12.78				
		80	2.5	0.1967	5	0.1769	23.4211	97.99	1.56				
		270	4.3	0.509	5	0.4836	24.1047	100.00	2.01				

APPENDIX 3-2 (Cont'd)

PARTICLE SIZE ANALYSIS OCTOBER 2 - OCTOBER 17 WESLEYVILLE GS A - 1978

Spar	Depth (m)	Held On Mesh mm	ϕ	Raw Weight (gms)	% Aggregates	Corrected Weight (gms)	Cumulative Weight (gms)	Cumulative %	Individual %	Graphic Mean	Graphic Std Dev	Dry Weight (gms)	Ash Weight (gms)
55	1.0	5	-2.0	0.2796	0	0.2796	0.2796	0.28	0.65				
		8	-1.2	0.3531	0	0.3541	0.6327	1.47	0.82				
		16	-0.25	0.2566	0	0.2566	0.8993	2.07	0.60				
		20	0.3	0.202	0	0.202	1.0913	2.54	0.51				
		30	0.8	0.4105	0	0.4105	1.5018	13.49	0.95	1.82	0.63	62.7655	62.6615
		60	2.0	32.885	0	32.885	34.3868	79.97	76.47				
		80	2.5	1.9833	0	1.9833	36.3701	84.58	4.61				
		270	4.3	6.8555	5	6.5127	42.8828	99.72	15.15				
		Pan	4.3	0.1195	0	0.1195	43.0023	100.00	0.28				
56	3.0	5	-2.0	0.1055	0	0.1055	0.1055	0.24	0.24				
		8	-1.2	0.0681	0	0.0681	0.1736	0.39	0.15				
		12	-0.75	0.0776	10	0.0698	0.2434	0.54	0.16	2.46	1.08	4.6853	4.0585
		16	-0.25	0.0329	0	0.0329	0.2763	0.62	0.07				
		20	0.3	0.2019	5	0.1918	0.4681	1.04	0.43				
		30	0.8	0.2361	2	0.2314	0.6995	2.60	0.52				
		60	2.0	21.8678	0	21.8678	22.937	51.10	48.71				
		80	2.5	1.7131	5	1.6274	24.5644	54.72	3.63				
		270	4.3	22.5833	10	20.3250	44.8894	100.00	45.28				
58	12.0	5	-2.0	0.3694	0	0.3694	0.3694	1.04	1.04				
		8	-1.2	0.3222	0	0.3222	0.6916	1.95	0.91				
		12	-0.75	0.0984	0	0.0984	0.79	2.22	0.28				
		16	-0.25	0.1995	0	0.1995	0.9895	2.79	0.56	1.43	0.27	30.5114	30.416
		20	0.3	0.6621	0	0.6621	1.6516	4.65	1.86				
		30	0.8	1.6965	0	1.6965	3.3481	9.43	4.78				
		45	1.6	11.9091	5	11.3136	14.6617	41.28	31.85				
		60	2.0	19.0976	0	19.0976	33.7593	95.05	53.76				
		80	2.5	0.4119	15	0.3501	34.1094	96.03	0.99				
		270	4.3	1.3664	10	1.2298	35.3392	99.49	3.41				
		Pan	4.3	0.1794	0	0.1794	35.5186	100.00	0.51				
61	1.0	12	-7.5	0.0405	0	0.0405	0.0405	0.32	0.32				
		16	-2.5	0.0488	0	0.0488	0.0893	0.70	0.38				
		20	.3	0.0893	0	0.0893	0.1786	1.40	0.70				
		30	.8	0.3024	5	0.2873	0.4659	3.64	2.25	1.60	0.33	13.9143	13.8682
		45	1.6	4.7531	0	4.7531	5.219	40.78	37.14				
		60	2.0	6.6335	0	6.6175	11.8525	92.62	51.84				
		80	2.5	0.5283	0	0.5283	12.3808	96.75	4.13				
		270	4.3	0.4158	0	0.4158	19.7966	100.00	1.25				

APPENDIX 3-2 (Cont'd)

PARTICLE SIZE ANALYSIS OCTOBER 2 -OCTOBER 17 WESLEYVILLE GS A - 1978

Spar	Depth (m)	Held On Mesh mm	ϕ	Raw Weight (gms)	% Aggregates	Corrected Weight (gms)	Cumulative Weight (gms)	Cumulative %	Individual %	Graphic Mean	Graphic Std Dev	Dry Weight (gms)	Ash Weight (gms)
63	7.0	1/4	-2.5	3.3914	0	3.3914	3.3914	10.96	10.96				
		5	-2.0	1.0511	0	1.0511	4.4425	14.35	3.40				
		8	-1.2	1.8768	0	1.8768	6.3193	20.42	9.46	0.81	2.13	34.6811	34.1693
		12	-7.5	1.0822	0	1.0822	7.4015	23.92	3.50				
		16	-2.5	0.8986	0	0.8986	8.3001	26.82	2.90				
		20	0.3	1.1293	0	1.1293	9.4294	30.47	3.65				
		30	0.8	1.1413	0	1.1413	10.5707	34.16	3.69				
		45	1.6	2.4315	0	2.4315	13.0022	42.01	9.86				
		60	2.0	12.3184	5	11.7025	24.7047	79.82	37.81				
		80	2.5	1.5016	10	1.3514	26.0561	84.19	4.37				
		270	4.3	5.1167	5	4.8609	30.917	99.90	15.71				
64	12.0	1/4	-2.5	1.5348	0	1.5348	1.5348	8.74	8.74				
		5	-2.0	0.3234	0	0.3234	1.8582	10.58	1.84				
		8	-1.2	0.4477	0	0.4477	2.3059	13.13	2.55				
		12	.75	0.1973	0	0.1973	2.5032	14.25	1.12				
		16	-.25	0.1194	0	0.1194	2.6226	14.93	0.68				
		20	0.3	0.7627	0	0.7627	3.3853	19.28	4.34	1.02	0.93	70.5806	70.4326
		30	.8	2.7956	1	2.7676	6.1529	35.04	15.76				
		45	1.6	6.1598	5	5.8518	12.0047	68.36	33.39				
		60	2.0	3.9457	0	1.9457	15.9504	90.83	22.47				
		80	2.5	0.5386	5	0.5117	16.4621	93.74	2.91				
		270	4.3	1.0611	0	1.0611	17.5232	99.79	6.04				
		Pan		0.0377	0	0.0377	17.5609	100.00	0.21				

APPENDIX 3-3

TOTAL INORGANIC AND LOSS-ON-IGNITION SEDIMENTATION RATES (g/cm^2)
WESLEYVILLE GS A - 1978

May - August

Spar	Depth (m)	Transect	Total (gm/cm^2)	Inorganic (gm/cm^2)	Loss-on-Ignition (gm/cm^2)
28	12	O	0.0473	0.0429	0.0044
38	3	Q	8.1648	7.9785	0.1863
39	7	Q	0.1403	0.1337	0.0066
40	12	Q	1.0869	1.0269	0.0600
50	3	S	1.2414	0.9842	0.2572
51	7	S	0.5319	0.4421	0.0898
52	12	S	0.2652	0.2464	0.0188
56	3	U	8.2104	7.9383	0.2721
57	7	U	1.0881	1.0590	0.0291
58	12	U	0.0311	0.0293	0.0018
62	3	Y	1.1889	0.8235	0.3654
64	12	Y	0.2003	0.1901	0.0102

August - November

Spar	Depth (m)	Transect	Total (gm/cm^2)	Inorganic (gm/cm^2)	Loss-on-Ignition (gm/cm^2)
26	3	O	34.6062	34.1859	0.4203
27	7	O	7.4763	7.2730	0.2033
28	12	O	0.9222	0.8592	0.0630
38	3	Q	55.2963	52.4487	2.8476
39	7	Q	6.7095	6.3870	0.3225
50	3	S	15.4392	15.1146	0.3246
51	7	S	4.1334	2.8869	1.2465
52	12	S	1.0710	1.0073	0.0637
56	3	U	34.5252	33.6177	0.9075
57	7	U	1.9710	1.8993	0.0717
58	12	U	1.5045	1.4163	0.0882
62	3	Y	11.1300	10.6584	0.4716
63	7	Y	9.7242	9.3483	0.3759
64	12	Y	0.6063	0.5560	0.0503

APPENDIX 3-4

MEAN DAILY TEMPERATURES AT SELECTED SITES
ON A TRANSECT 1.3 km WEST OF INTAKE WESLEYVILLE GS A - 1978

DISTANCE OFFSHORE 0.2 km - WATER AND RECORDER DEPTH 2.0 m

Date	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1		6.2	7.1	6.9	18.0	20.1	15.8	7.8	
2		6.0	7.4	7.8	20.4	20.1	15.3	7.7	
3		6.4	6.7	10.4	20.2	18.7	15.3	7.7	
4		6.5	6.9	13.1	19.0	18.0	15.1	8.2	
5		6.6	8.0	12.4	19.3	16.6	15.2	8.7	
6		7.0	7.9	11.8	19.9	16.2	14.9	8.9	
7		6.9	8.5	11.8	19.9	11.4	11.4	8.6	
8	3.8	8.2	7.8	13.2	19.9	16.4	7.9	8.1	
9	3.7	8.6	7.3	11.1	15.1	18.2	7.5	8.0	
10	3.9	9.0	7.7	10.2	13.8	18.2	7.7	8.1	
11	4.2	7.9	8.8	6.4	16.2	19.0	7.6	7.9	
12	4.1	7.9	9.5	6.5	17.9	19.0	9.2	7.6	
13	4.6	8.3	6.9	6.9	18.6	18.0	7.9	7.1	
14	4.8	8.8	7.1	8.9	18.3	17.2	8.0		
15	4.9	9.2	7.5	11.2	21.1	17.7	8.0		
16	4.9	9.1	7.4	10.6	22.5	17.3	8.6		
17	5.0	9.3	8.4	7.2	13.8	16.3	9.3		
18	5.6	8.9	7.5	8.9	11.2	16.2	9.7		
19	5.6	7.4	6.5	12.7	13.3	16.9	9.8		
20	5.9	7.0	6.5	15.1	12.5	17.6	10.0		
21	5.8	7.6	7.7	16.3	14.4	17.5	10.3		
22	4.9	7.9	6.8	17.6	15.8	16.9	10.6		
23	5.2	8.4	6.3	14.7	19.7	16.8	9.9		
24	6.2	9.4	6.7	11.0	21.2	17.2	9.3		
25	6.6	8.9	7.3	14.5	21.0	16.6	9.3		
26	6.7	7.0	9.8	17.1	20.2	15.7	8.8		
27	7.0	7.5	10.1	15.9	20.1	15.8	7.5		
28	6.1	8.9	8.1	13.2	20.3	15.0	7.4		
29	5.5	7.9	6.5	12.1	20.5	14.9	6.5		
30	6.5	9.1	6.6	12.3	19.5	15.1	6.8		
31	6.8	8.6		13.6	20.0		7.5		

APPENDIX 3-4 (Cont'd)

MEAN DAILY TEMPERATURES AT SELECTED SITES
ON A TRANSECT 1.3 km WEST OF INTAKE WESLEYVILLE GS A - 1978

DISTANCE OFFSHORE 1.2 km - WATER AND RECORDER DEPTH 15.0 m

Date	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1		4.5	4.8	5.2	16.6	16.0	12.6	8.1	4.1
2		4.8	4.8	5.1	17.3	15.3	12.2	8.0	4.0
3		4.9	4.7	7.7	18.3	11.6	13.0	6.8	3.4
4		4.8	4.7	10.4	16.6	12.1	13.1	7.9	3.2
5		5.2	4.8	8.5	15.5	10.4	12.7	8.5	3.3
6		5.4	4.8	7.4	16.1	9.9	12.7	8.6	4.1
7		5.2	5.0	7.3	11.7	7.9	6.8	8.4	3.8
8	2.7	5.3	5.4	8.1	16.9	13.3	3.7	8.5	3.4
9	2.5	5.6	5.5	7.6	9.1	16.2	3.2	7.8	4.0
10	2.7	5.3	5.1	6.6	6.0	17.8	3.4	7.3	3.3
11	2.7	4.5	4.9	4.7	8.6	19.0	4.0	8.2	3.2
12	3.0	5.7	5.2	4.5	11.9	17.5		8.1	3.2
13	3.1	6.1	5.2	4.5	13.2	18.4		7.9	3.4
14	3.1	6.1	5.1	5.6	12.0	17.9		8.2	3.3
15	3.1	6.0	4.9	6.1	12.4	17.8		7.8	
16	3.3	6.4	5.0	6.3	14.9	15.1		7.6	
17	3.4	6.9	6.2	5.9	8.8	15.5		7.7	
18	3.3	6.8	6.3	5.7	6.1	17.1		7.8	
19	3.6	5.2	5.9	5.9	8.1	17.0		7.9	
20	3.6	4.5	5.6	7.6	9.3	17.0		6.5	
21	3.6	5.0	5.5	10.4	9.9	16.8		6.2	
22	3.9	5.3	5.1	10.8	13.4	16.4		6.4	
23	3.7	4.9	4.5	9.3	14.6	16.4		6.2	
24	3.7	5.2	4.5	7.9	19.2	16.2		6.1	
25	3.8	5.5	4.7	9.4	20.5	13.9		6.0	
26	4.6	4.9	5.6	12.5	19.8	13.4	6.3	5.6	
27	4.7	4.7	5.6	12.9	19.8	13.0	5.6	5.3	
28	4.0	5.1	4.9	10.5	20.3	12.0	5.4	5.3	
29	3.1	5.1	4.8	8.6	17.8	11.8	5.5	5.1	
30	3.8	5.0	4.7	9.2	11.0	13.0	7.0	4.6	
31	5.1	4.9		12.1	14.1		8.3		

APPENDIX 3-4 (Cont'd)

MEAN DAILY TEMPERATURES AT SELECTED SITES
ON A TRANSECT 1.3 km WEST OF INTAKE WESLEYVILLE GS A - 1978

DISTANCE OFFSHORE 2.2 km - WATER AND RECORDER DEPTH 21.0 m

Date	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
1		3.7	4.5	5.1			13.7	7.9	3.7
2		3.6	6.4	5.3			11.7	7.8	3.8
3		4.2	4.4	5.5			12.7	6.1	3.3
4		4.3	4.4	8.0			14.4	6.1	3.5
5		4.7	4.7	7.9		7.9	13.3	7.2	3.7
6		4.5	4.5	7.0		7.6	13.6	7.9	3.9
7		4.5	4.5	6.6		6.4	10.5	7.7	3.3
8	2.5	4.3	4.8	6.4		10.9	5.0	8.1	3.6
9	2.3	4.9	5.0	7.1		10.8	4.3	7.6	4.1
10	2.3	4.8	4.5	6.8		12.8	4.2	6.4	3.8
11	2.6	4.2	4.5	6.5		16.2	5.1	7.7	
12	3.0	4.5	4.6	5.2		15.8	6.4	8.0	
13	2.8	5.4	4.8	4.7		17.8	5.9	7.5	
14	2.9	5.3	4.9	4.9	9.1	17.5	6.1	7.2	
15	2.8	5.3	4.8	5.3	8.8	17.0	7.0	7.1	
16	2.7	5.8	4.6	5.8	10.8	13.5	7.5	6.5	
17	3.0	5.7	5.3	5.8	6.7	13.2	8.4	6.4	
18	2.9	5.8	5.8	6.1	5.2	16.4	9.3	6.7	
19	3.2	4.8	5.5	5.7	6.2	15.9	8.5	6.8	
20	3.3	4.3	5.3	5.7	7.4	15.9	7.7	4.9	
21	3.4	4.8	5.1		8.1	15.7	8.0	4.9	
22	3.6	4.9	5.0		10.9	14.8	8.5	5.2	
23	3.8	4.7	4.7		11.9	15.2	8.0	5.4	
24	3.5	4.8	4.7		14.1	15.3	7.8	5.2	
25	3.5	4.9	4.9		18.9	11.1	7.8	5.3	
26	4.2	4.8	5.1			12.5	5.7	5.1	
27	4.6	4.8	5.4			13.3	5.1	4.6	
28	3.9	4.8	5.6			11.4	4.8	4.9	
29	3.5	4.7	5.4			10.7	5.0	4.7	
30	3.9	4.8	5.2			13.1	6.1	4.3	
31	4.5	4.8					7.4		

APPENDIX 3-5
TEMPERATURE PROFILES (°C) AT 15 METRE AND 20 METRE DEPTH CONTOURS ON TRANSECTS O, Q, R, S AND Y WESLEYVILLE GS A - 1978

TRANSECT O(SPAR 29)

Depth (m)	May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
0	7.6	5.5	14.0	16.5	17.5	9.0
1	7.5	5.5	14.0	16.5	17.5	8.8
2	7.4	5.5	12.0	16.5	17.0	8.5
3	7.0	5.5	11.0	16.0	17.0	8.5
4	6.0	5.5	10.5	15.5	17.0	8.5
5	5.4	5.5	10.5	15.0	17.0	8.5
6	5.2	5.0	10.0	14.5	17.0	8.0
7	5.0	5.0	10.0	14.5	17.0	8.0
8	4.9	5.0	9.0	14.5	17.0	7.5
9	5.0	5.0	8.5	14.5	17.0	7.5
10	5.0	5.0	8.0	14.5	17.0	7.5
11	4.9	5.0	7.5	14.5	17.0	7.3
12	5.0	4.5	7.5	14.0	17.0	7.3
13	5.0	4.5	7.5	14.0	16.5	7.3
14	4.9	4.5	7.0	14.0	16.5	7.3
15	4.9	4.5	7.0	14.0	16.5	7.3

TRANSECT Q(SPAR 41)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
7.5	5.5	14.5	18.0	17.5	9.0
7.3	5.5	13.0	17.0	17.5	8.8
7.2	5.5	12.5	16.5	17.5	8.8
7.0	5.5	11.5	16.0	17.0	8.8
6.0	5.5	11.0	16.0	17.0	8.8
5.1	5.5	11.5	15.0	17.0	8.5
5.0	5.5	10.0	15.0	17.0	8.5
5.0	5.0	10.0	15.0	17.0	8.0
4.9	5.0	9.5	14.5	17.0	7.8
4.9	5.0	9.0	14.5	17.0	7.5
4.9	5.0	9.0	14.5	17.0	7.3
4.9	4.5	8.5	14.5	17.0	7.3
4.9	4.5	8.0	14.5	16.5	7.3
4.9	4.5	8.0	14.5	16.5	7.3
4.9	4.5	7.5	14.0	16.5	7.3
4.9	4.5	7.5	14.0	16.5	7.3

TRANSECT R(SPAR 47)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
7.0	5.5	15.0	17.5	17.5	15.0
6.7	5.5	14.0	16.5	17.5	15.0
6.5	5.5	13.0	16.0	17.5	15.0
6.4	5.5	12.0	15.5	17.0	15.0
6.1	5.5	11.0	15.5	17.0	15.0
5.8	5.5	10.5	15.0	17.0	15.0
5.5	5.5	10.0	15.0	17.0	15.0
5.6	5.0	9.5	14.5	17.0	15.0
5.1	5.0	9.5	14.5	17.0	14.8
5.1	5.0	8.5	14.5	17.0	14.8
5.0	5.0	8.0	14.0	17.0	14.8
5.0	4.5	7.5	14.0	17.0	14.8
5.0	4.5	7.5	14.0	17.0	14.8
5.0	4.5	7.5	14.0	16.5	14.8
5.0	4.5	7.0	14.0	16.5	14.8

TRANSECT R(SPAR 48-20 m)

Depth (m)	May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
0	6.8	5.5	15.0	17.5	17.5	15.0
1	6.5	5.5	14.0	16.5	17.5	15.0
2	6.5	5.5	13.0	16.0	17.0	15.0
3	6.3	5.5	12.0	15.5	17.0	15.0
4	5.7	5.5	11.0	15.5	17.0	15.0
5	5.5	5.5	10.5	15.0	17.0	15.0
6	5.0	5.5	10.0	15.0	17.0	15.0
7	5.0	5.0	9.5	14.5	17.0	15.0
8	4.9	5.0	9.5	14.5	17.0	14.8
9	4.9	5.0	8.5	14.5	17.0	14.8
10	4.9	5.0	8.0	14.0	17.0	14.8
11	4.9	5.0	8.0	14.0	17.0	14.8
12	4.9	4.5	7.5	14.0	17.0	14.8
13	4.9	4.5	7.5	14.0	17.0	14.8
14	4.9	4.5	7.5	14.0	16.5	14.8
15	4.9	4.5	7.0	14.0	16.5	14.5
16	4.9	4.5	7.0	13.5	16.5	14.5
17	4.9	4.5	7.0	13.5	16.5	14.5
18	4.9	4.5	7.0	13.5	16.5	14.5
19	4.9	4.5	7.0	13.5	16.5	14.5
20	4.9	4.5	7.0	13.5	16.5	14.5

TRANSECT S(SPAR 53)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
7.5	5.5	14.5	17.5	17.5	15.0
7.4	5.5	14.5	17.0	17.5	15.0
7.0	5.5	12.5	16.5	17.5	15.0
7.0	5.5	12.0	16.5	17.0	15.0
6.1	5.5	11.0	15.5	17.0	15.0
6.0	5.5	10.0	15.5	17.0	15.0
5.5	5.0	9.5	15.0	17.0	15.0
5.5	5.0	9.0	15.0	17.0	15.0
5.5	5.0	9.0	15.0	17.0	15.0
5.3	5.0	9.5	15.0	17.0	15.0
5.2	5.0	8.5	15.0	17.0	15.0
5.2	5.0	8.0	15.0	17.0	15.0
5.1	5.0	8.0	14.5	17.0	14.8
5.2	4.5	7.5	14.5	16.5	14.8
5.2	4.5	7.5	14.0	16.5	14.8
5.1	4.5	7.0	14.0	16.5	14.8

TRANSECT Y(SPAR 65)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
7.1	7.0	15.5	19.0	17.0	15.0
6.8	7.0	14.5	18.5	17.0	15.0
6.6	7.0	13.5	17.5	17.0	15.0
6.1	7.0	11.4	17.0	17.0	15.0
5.7	6.5	11.5	17.0	17.0	15.0
5.5	6.5	10.5	16.5	16.5	15.0
5.4	6.5	10.5	16.5	16.5	15.0
5.3	6.0	9.5	16.0	16.5	15.0
5.2	5.5	9.0	15.5	16.5	15.0
5.1	5.5	8.0	15.5	16.5	15.0
5.2	5.0	8.0	15.0	16.0	15.0
5.4	5.0	7.5	15.0	16.0	14.8
5.2	5.0	7.5	14.5	16.0	14.8
5.1	5.0	7.5	14.5	16.0	14.8
5.1	5.0	7.0	14.5	16.0	14.6
5.1	5.0	7.0	14.5	16.0	14.6

APPENDIX 3-5 (Cont'd)
DISSOLVED OXYGEN (PPM) PROFILES AT 15 AND 20 METRE DEPTH CONTOURS ON TRANSECTS O, Q, R, S AND Y
WESLEYVILLE GS A - 1978

TRANSECT O(SPAR 29)

Depth	May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
S	13.6	12.8	12.0	10.0	10.2	10.5
1	13.5	12.8	11.8	10.2	10.3	10.7
2	13.4	12.8	12.0	10.8	10.4	10.6
3	13.4	12.8	12.0	10.8	10.8	10.6
4	13.4	12.8	12.2	10.6	10.8	10.7
5	13.3	12.8	12.4	10.2	10.7	10.7
6	13.2	12.8	12.4	10.0	10.7	10.8
7	13.2	13.0	12.4	10.0	10.6	10.8
8	13.2	13.0	12.4	10.0	10.6	10.8
9	13.2	13.0	12.0	10.0	10.6	10.8
10	13.2	13.0	12.0	10.0	10.6	10.8
11	13.2	13.2	11.8	10.0	10.2	10.9
12	13.2	13.2	11.8	10.0	10.2	11.0
13	13.2	13.2	11.8	9.8	9.8	11.0
14	13.2	13.2	11.8	9.8	9.8	11.0
15	13.2	13.2	11.6	9.8	9.8	11.0

TRANSECT Q(SPAR 41)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
13.5	12.8	11.0	9.6	10.2	10.6
13.4	12.8	11.0	10.2	10.4	10.7
13.4	12.8	11.4	10.8	10.6	10.7
13.4	12.8	11.6	10.4	10.6	10.7
13.2	12.8	11.8	10.4	10.7	10.8
13.2	12.8	11.8	10.2	10.8	10.9
13.2	13.0	11.9	10.0	10.8	10.9
13.2	13.0	12.0	10.0	10.7	10.9
13.2	13.0	12.2	10.0	10.6	11.1
13.2	13.0	12.2	10.0	10.6	11.1
13.2	13.0	12.2	9.9	10.4	11.2
13.2	13.0	12.4	9.9	10.2	11.1
13.2	13.2	12.2	9.8	10.2	11.1
13.2	13.2	12.0	9.8	10.1	11.1
13.2	13.2	11.6	9.8	9.8	11.1
13.2	13.2	11.4	9.8	9.8	11.1

TRANSECT R(SPAR 47)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
13.5	12.8	11.0	9.8	10.0	10.3
13.5	12.8	11.2	10.2	10.2	10.3
13.5	12.8	11.4	10.2	10.4	10.3
13.5	12.8	11.4	10.2	10.2	10.3
13.4	12.8	11.6	10.0	10.2	10.4
13.4	12.8	11.6	9.8	10.4	10.4
13.4	13.0	11.8	9.8	10.4	10.4
13.4	13.0	11.8	9.8	10.3	10.5
13.3	13.0	12.0	9.8	10.2	10.4
13.3	13.0	12.0	9.8	10.2	10.4
13.3	13.0	12.0	9.8	10.0	10.5
13.3	13.0	12.0	9.7	10.0	10.4
13.3	13.2	12.0	9.6	10.0	10.5
13.3	13.2	11.8	9.6	10.0	10.4
13.3	13.2	11.8	9.6	9.8	10.4
13.3	13.2	11.6	9.6	9.8	10.0

TRANSECT R (SPAR 48-20 m)

Depth	May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
S	13.5	12.8	11.0	9.8	10.0	10.3
1	13.4	12.8	11.2	10.2	10.2	10.3
2	13.4	12.8	11.4	10.2	10.4	10.3
3	13.4	12.8	11.4	10.2	10.2	10.3
4	13.3	12.8	11.6	10.0	10.2	10.4
5	13.3	12.8	11.6	9.8	10.4	10.4
6	13.3	13.0	11.8	9.8	10.4	10.4
7	13.3	13.0	11.8	9.8	10.3	10.5
8	13.2	13.0	12.0	9.8	10.2	10.4
9	13.2	13.0	12.0	9.8	10.2	10.4
10	13.2	13.0	12.2	9.8	10.0	10.5
11	13.2	13.0	12.0	9.7	10.0	10.5
12	13.2	13.0	12.0	9.7	10.0	10.5
13	13.2	13.2	12.0	9.6	10.0	10.4
14	13.2	13.2	11.8	9.6	10.0	10.4
15	13.2	13.2	11.6	9.6	9.8	10.3
16	13.2	13.2	11.6	9.5	9.8	10.2
17	13.2	13.2	11.6	9.5	9.8	10.0
18	13.2	13.2	11.6	9.5	9.8	10.2
19	13.2	13.2	11.6	9.5	9.8	10.3
20	13.2	13.2	11.6	9.5	9.8	10.2

TRANSECT S(SPAR 53)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
13.6	12.8	10.8	9.4	10.2	10.4
13.5	12.8	11.2	10.0	10.6	10.3
13.5	12.8	11.6	10.0	10.8	10.1
13.5	12.8	11.6	10.0	10.8	10.2
13.4	12.8	11.8	9.8	10.8	10.3
13.4	12.8	11.8	9.8	10.8	10.3
13.3	12.8	12.0	9.8	10.4	10.4
13.3	13.0	12.2	9.8	10.4	10.4
13.4	13.0	12.0	9.8	10.4	10.4
13.3	13.0	12.0	9.8	10.4	10.4
13.3	13.0	11.8	9.7	10.4	10.4
13.3	13.0	11.8	9.8	10.3	10.5
13.3	13.2	11.8	9.8	10.3	10.5
13.3	13.2	11.8	9.8	10.2	10.4
13.3	13.2	11.6	9.8	10.0	10.2
13.3	13.2	11.6	9.6	10.0	10.2

TRANSECT Y Y(SPAR 65)

May 11	June 15	July 19	Aug 22	Sept 19	Oct 5
13.6	12.8	11.0	9.4	9.5	10.9
13.1	12.8	11.0	9.8	9.5	10.7
13.5	12.8	11.2	10.2	9.5	10.6
13.4	12.8	11.2	10.2	9.5	10.3
13.4	13.0	11.6	10.2	9.6	10.2
13.3	13.0	12.0	10.2	9.6	10.3
13.3	13.0	12.2	10.2	9.7	10.3
13.3	13.0	12.2	10.2	9.7	10.3
13.3	13.0	12.2	9.8	9.8	10.3
13.3	13.0	12.2	9.8	9.8	10.3
13.3	13.0	12.0	9.7	9.8	10.3
13.3	13.0	12.0	9.6	9.8	10.3
13.3	13.2	11.8	9.8	9.8	10.0
13.3	13.2	11.8	9.8	9.8	9.5
13.3	13.2	11.8	9.8	9.6	10.4
13.3	13.2	11.6	9.6	9.6	10.0

APPENDIX 3-6

WATER ANALYSIS OF LAKE ONTARIO AT
WESLEYVILLE GS A - 1978 SPAR 47 (15 m)

Analysis	February 21		May 11		August 22		October 24	
	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom
pH ± 0.01	8.13	8.11	8.28	8.33	8.37	7.91	8.0	7.9
Conductivity mS/m	30.1	30.3	24.9	25.0	30.9	31.1	27.0	28.0
Turbidity NTU	0.3	8.6	1.6	1.5	1.1	1.3	0.36	0.42
Colour	None	None	None	None	None	None	None	None
Suspended Solids (mg/L)								
105°C	0.8	23.8	3.9	2.5	1.7	1.7	-	-
550°C	1.0	24.4	2.6	1.1	-	-	-	-
Dissolved Solids (mg/L)								
105°C	212	212	215	221	210	211	169	170
550°C	167	169	163	167	-	-	-	-
Alkalinity (mg/L as $CaCO_3$)	100	98	96	96	95	93	92	90
Hardness (mg/L as $CaCO_3$)	132	137	137	132	157	163	120	122
Total Phosphorus (mg/L as P)	0.02	0.06	0.025	0.019	<0.010	<0.010	<0.010	<0.010
Orthophosphorus (mg/L as P)	0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010
Total Nitrogen (mg/L as N)	0.2	0.2	0.24	0.29	0.28	0.22	0.27	0.23
Soluble Nitrogen (mg/L as N)	0.2	0.2	0.24	0.28	-	-	-	-
NO_3 (mg/L as N)	0.32	0.31	0.34	0.33	0.21	0.23	0.21	0.24
COD (mg/L as COD)	12	16	28	28	-	-	<3.6	7.0
Oil and Grease (µL/L)	<1.0	<1.0	43	<1.0	<1.0	<1.0	<1.0	<1.0
Cl (mg/L)	28	28	25	23	28	28	27.3	28.4
SO (mg/L)	25	25	25	25	25	23	25.6	25.2
Total Carbon (mg/L as C)	25.8	25.6	25.5	25.8	26.0	25.6	26.9	25.9
Inorganic Carbon (mg/L as C)	23.3	23.5	23.0	23.2	20.3	20.2	23.0	23.0
Organic Carbon (mg/L as C)	2.5	2.1	2.5	2.6	5.7	5.4	3.9	2.9
Chlorophyll a (mg/L)	0.5x 10^{-3}	0.73x 10^{-3}	2.8x 10^{-3}	3.2x 10^{-3}	1.0x 10^{-3}	2.7x 10^{-3}	3.5x 10^{-3}	3.3x 10^{-3}
Ag (µg/L)	-	-	<1	<1	<0.2	<0.2	< 0.2	< 0.2
As (µg/L)	-	-	0.5	<0.5	1.0	1.0	2.0	1.0
Be (µg/L)	-	-	<0.02	<0.02	<5	<5	< 0.5	< 0.5
Ca (mg/L)	39	40	39	37	40	40	38	38
Cd (µg/L)	<1.0	<1.0	<0.2	<0.2	<0.1	0.1	< 0.2	< 0.2
Co (µg/L)	-	-	<1	<1	3.5	<0.5	< 0.5	1.0
Cr (µg/L)	-	-	6	5	8.4	8.4	13.5	7.1
Cu (µg/L)	-	-	2	5	1.1	0.2	1.5	2.5
Fe (mg/L)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	.019	.063
Hg (µg/L)	0.2	<0.1	0.26	0.04	0.01	0.01	0.08	0.08
K (mg/L)	1.1	1.1	1.0	1.0	1.8	1.7	1.2	1.4
Mg (mg/L)	8.5	9.0	9.6	9.6	7.8	8.0	6.6	6.6
Mn (µg/L)	-	-	0.3	0.3	2.0	0.4	< 0.5	< 0.5
Na (mg/L)	11	11	13	13	13	13	13	13
Ni (µg/L)	-	-	5	5	1.0	<0.5	4.0	2.2
Pb (µg/L)	-	-	54	10	0.5	<0.5	< 1	< 1
Se (µg/L)	-	-	<50	50	1.0	<1.0	< 0.1	< 0.1
Si Total (mg/L as SiO_2)	0.94	3.2	0.46	0.42	0.32	0.38	0.81	0.81
Dissolved (mg/L as SiO_2)	0.53	0.53	0.11	0.11	0.32	0.37	0.30	0.24
V (µg/L)	-	-	0.7	0.4	<0.2	<0.2	< 0.2	< 0.2
Zn (µg/L)	-	-	8	10	12	<2.5	3.0	3.1

Sampled - September 13	REPLICATES	
	1	2
Total Coliforms (count/100 ml)	7	15
Fecal Coliforms (count/100 ml)	4	4
Fecal Streptococci (count/100 ml)	4	4

APPENDIX 3-7

SEDIMENT ANALYSIS - SPAR 47 (15 m)
WESLEYVILLE GS A - 1978

Aluminum (Al) mg/kg	27,400
Arsenic (As) mg/kg	<1.0
Barium (Ba) mg/kg	314
Beryllium (Be) mg/kg	<0.1
Cadmium (Cd) mg/kg	<10
Calcium (Ca) mg/kg	192,000
Chromium (Cr) mg/kg	22.6
Cobalt (Co) mg/kg	<4
Copper (Cu) mg/kg	<0.3
Iron (Fe) mg/kg	10,900
Lead (Pb) mg/kg	5.0
Magnesium (Mg) mg/kg	11,000
Manganese (Mn) mg/kg	310
Mercury (Hg) µg/kg	20
Molybdenum (Mo) mg/kg	<20
Nickel (Ni) mg/kg	14
Phosphorus (P) mg/kg	340
Potassium (K) mg/kg	8,730
Silica (Si) mg/kg	167,000
Silver (Ag) mg/kg	<0.4
Sodium (Na) mg/kg	7,300
Strontium (Sr) mg/kg	400
Titanium (Ti) mg/kg	1,560
Thorium (Th) µg/kg	<2
Vanaduim (V) mg/kg	22.7
Zinc (Zn) mg/kg	25.0

APPENDIX 3-8

PHYTOPLANKTON SPECIES BIOMASS WESLEYVILLE GS A - 1978

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT M 03 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M**3)	TRANSECT M 07 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M**3)	TRANSECT M 15 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M**3)	TRANSECT O 03 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M**3)	TRANSECT O 07 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M**3)	TRANSECT O 15 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M**3)	TRANSECT Q 03 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M**3)
APHANIZOMENON FLOS-AQUAE	3.696	.000	.462	1.650	1.122	3.960	2.772
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	1.000	.400	.320	.680	.800	.600	.680
CLOSTERIOPSIS LONGISSIMA	1.680	.000	.000	1.680	.000	.840	.000
CLOSTERIUM SP	9.200	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	5.760	5.440	4.400	7.000	8.200	9.120	5.600
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	5.800	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	6.000	4.000	6.000	2.000	6.000	.000	6.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	50.880	.000
STEPHANODISCUS SP	1.020	.000	.510	1.360	.850	.510	.850
STEPHANODISCUS NIAGARAE	373.320	456.280	248.800	497.760	456.280	414.800	248.880
STEPHANODISCUS MINUTULUS	.000	.000	.000	4.920	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	.000	.000	.000	28.160	7.040	7.040	21.120
RHODOMONAS MINUTA	2.200	1.760	.440	1.760	2.200	1.320	1.320
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	409.676	467.880	231.012	546.970	482.492	489.070	287.222

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT R 15 METRES B FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES M FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES B MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES M MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES B AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES M AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES B OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.858	.462	.000	.000	.000	.000	17.160
CHROCOCCUS SP	.000	.000	.000	.000	648.000	36.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	5.700	8.550	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	.360	.880	25.800	17.800	.000	.000	1.200
CLOSTERIOPSIS LONGISSIMA	.840	1.680	.000	.000	.000	.000	.000
OOCYSTIS SP	.000	2.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	3.840	6.160	7.200	8.000	14.400	32.000	.800
ASTERIONELLA GRACILLIMA	.000	2.560	518.400	499.200	.000	.000	.000
CYMBELLA SP	.000	.000	3.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	14.060	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	2.600	.000	.000	.000	.000	.000
UNIDENTIFIED 1	4.000	2.000	17.000	35.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	73.140	604.200	.000	.000	.000
STEPHANODISCUS SP	.680	.510	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	497.760	290.360	207.400	414.800	.000	.000	.000
STEPHANODISCUS BINDERANUS	.000	.000	217.300	155.800	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	2.700	.000	.000	.000	.000
CRYPTOMONAS SP	.000	.000	24.640	88.000	633.600	862.400	1232.000
RHODOMONAS MINUTA	.440	2.200	3.740	1.100	259.600	299.200	99.000
PERIDINIUM SP	.000	.000	165.000	83.000	.000	.000	.000
TOTALS	508.778	311.412	1287.080	1915.450	1555.600	1229.600	1350.160

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT Q 07 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 15 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 03 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 07 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 15 METRES I FEB 21 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.858	.000	1.584	.000	.000	.000	.000
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	.960	.400	.400	.440	.720	.840	5.000
CLOSTERIOPSIS LONGISSIMA	.840	.000	.840	.840	1.680	1.680	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	6.520	4.960	5.920	7.600	5.760	5.600	6.400
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.656	.000	.000
ASTERIONELLA GRACILLIMA	.000	5.120	3.840	3.840	7.680	.000	358.400
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	14.520	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	12.000	.000	.000
RHOICOSPHENIA CURVATA	2.600	.000	.000	.000	2.600	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	2.000	8.000	4.000	8.000	2.000	8.000	.000
MELOSIRA GRANULATA	.000	000	2.720	.000	.000	.000	31.800
STEPHANODISCUS SP	.510	1.360	.510	.680	.510	.340	.000
STEPHANODISCUS NIAGARAE	41.480	290.360	248.880	290.360	456.280	456.280	.000
STEPHANODISCUS BINDERANUS	.000	.000	.000	.000	.000	.000	190.800
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	14.080	7.040	7.040	28.160	21.120	7.040	.000
RHODOMONAS MINUTA	.880	.440	.880	.880	3.520	1.760	.000
PERIDINIUM SP	.000	.000	.000	.000	.000	33.200	.000
TOTALS	70.728	317.680	286.614	340.800	529.046	514.740	598.400

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT M 07 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 07 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	11.400	14.000	11.400	5.800	23.400	19.000	14.800
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	4.000	8.600	3.000	4.000	8.800	16.000	4.800
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	460.800	473.600	230.400	243.200	595.200	691.200	492.800
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHIZOSOLENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	63.600	47.700	47.700	318.000	254.400	190.800	111.300
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS RINDERAEUS	213.200	86.100	262.400	344.400	258.300	319.800	155.800
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CERATONEIS SP	.000	.000	.000	.000	.000	.000	.000
RHODOMONAS MINUTA	.000	.000	.000	.000	.000	.000	.000
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	753.000	630.600	557.900	915.400	1140.100	1236.800	779.500

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT O 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 07 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	4.554	.000
CHROCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	5.320	.000
ANKISTRODESMUS FALCATUS VAR REGABILIS	13.000	18.000	30.600	20.400	28.400	22.000	9.700
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	13.800	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.500	.000
SCENEDESMUS BIJUGA	7.600	12.000	10.400	8.800	10.040	4.600	13.200
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	384.000	339.200	691.200	550.400	588.800	396.800	454.400
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	10.000	.000
MELOSIRA GRANULATA	47.700	254.400	127.200	477.000	.000	73.140	95.400
STEPHANODISCUS SP	.000	.000	000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	000	.000	.000	165.920	.000
STEPHANODISCUS BINDERANUS	102.500	53.300	295.200	344.400	186.960	55.760	73.600
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	.000	.000	.000	.000	.000	52.800	.000
RHODOMONAS MINUTA	.000	.000	.000	.000	.000	10.560	.000
PERIDINIUM SP	.000	.000	.000	.000	.000	249.000	.000
TOTALS	554.800	676.900	1154.600	1401.000	814.200	1064.754	646.500

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT Q 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 07 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 07 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	14.700	.000
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	50.000	.000	13.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	5.700	5.130	.000	16.720	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	33.000	14.800	17.800	15.000	20.000	22.600	33.200
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	2.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	5.600	5.600	9.200	8.200	8.400	13.120	14.400
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	806.400	608.000	425.600	398.720	441.600	454.400	1004.800
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	30.000	13.000	.000	96.000	.000
MELOSIRA GRANULATA	190.800	190.800	111.300	159.000	.000	178.080	95.400
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	124.440	.000	497.760	.000
STEPHANODISCUS BINDERANUS	131.200	90.200	270.600	59.860	328.000	164.000	221.400
DINOBRYON SOCIALE	.000	.000	.000	.810	.000	.000	.000
CRYPTOMONAS SP	.000	.000	7.600	.000	.000	98.560	.000
RHODOMONAS MINUTA	.000	.000	2.200	.000	.000	8.800	.000
PERIDINIUM SP	.000	.000	249.000	215.800	.000	.000	.000
TOTALS	1167.000	909.400	1141.000	1049.960	798.000	1577.740	1369.200

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT R 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 07 METRES I MAY 12 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT S 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	3.800	.000	.000	5.700	.000	4.750
ANKISTRODESMUS FALCATUS VAR MIRABILIS	19.800	13.400	12.200	26.000	11.900	24.400	15.600
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	2.000	.000	.000
SCENEDESMUS BIJUGA	5.200	10.000	6.880	6.000	8.000	11.200	9.200
SCENEDESMUS QUADRICAUDA	.000	000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	505.600	390.400	537.600	659.200	620.800	742.400	422.400
CYMBELLA SP	.000	5.000	000	.000	.000	.000	.000
DIATOMA SP	.000	32.300	.000	.000	22.800	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	36.300
FRAGILARIA SP	.000	000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	6.500
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	15.000	.000	.000	25.000	.000	30.000
MELOSIRA GRANULATA	63.600	.000	149.460	47.700	.000	206.700	238.500
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	207.400	.000	311.100
STEPHANODISCUS BINDERANUS	49.200	233.700	72.160	254.200	188.600	102.500	53.300
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	.000	88.000	.000	.000	70.400	.000	88.000
RHODOMONAS MINUTA	000	15.400	.000	.000	22.000	.000	40.700
PERIDINIUM SP	.000	249.000	.000	.000	249.000	.000	332.000
TOTALS	643.400	1056.000	778.300	993.100	1433.600	1087.200	1588.350

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT S 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 07 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 03 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	19.800	.000	.000	.000	.000	.000	.000
CHROCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	5.700	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR SPIRABILIS	9.500	24.400	26.000	19.200	21.800	19.800	18.000
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	11.600	9.600	1.200	9.000	5.200	6.800	8.400
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	396.800	1030.400	563.200	576.000	582.400	441.600	582.400
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	18.150	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	45.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	127.200	150.800	.000	.000	206.700	159.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	414.800	.000	.000	.000	.000	.000	.000
STEPHANODISCUS BINDERANUS	98.400	237.800	98.400	106.600	86.100	90.200	213.200
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	140.800	.000	.000	.000	.000	.000	.000
RHODOMONAS MINUTA	15.400	.000	.000	.000	.000	.000	.000
PERIDINIUM SP	581.000	.000	.000	.000	.000	.000	.000
TOTALS	1756.950	1429.400	849.600	710.800	695.500	765.100	981.000

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT Y 07 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 12 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 15 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 20 METRES I MAY 12 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 12 METRES T AUG 22 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 07 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	.000	.000	.000	.000	54.000	36.000	18.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	25.400	26.400	19.000	12.400	.000	.000	.000
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	17.600	10.000	14.400	10.800	.400	26.400	.800
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	428.800	748.800	467.200	307.200	.000	.000	.000
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
PERIDINIA GRANULATA	572.400	143.100	.000	47.700	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SUBSALSUS	205.000	94.300	196.800	49.200	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	.000	.000	.000	.000	70.400	274.560	116.160
RHODOMONAS MINUTA	.000	.000	.000	.000	11.000	89.100	8.800
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	1249.200	1022.600	697.400	427.300	135.800	426.060	143.760

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT M 12 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 15 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 20 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT N 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 03 METRES T AUG 23 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT O 07 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 12 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	112.500	56.700	612.000	243.000	202.500	243.000	180.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR SIGMOIDEUS	.000	.000	.000	.000	.000	.000	.000
CLOSTERIDIUM LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	22.400	19.600	62.400	28.000	12.200	13.800	24.000
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYCLOTELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	1161.600	985.600	1302.400	1003.200	563.200	827.200	1020.800
RHODOMONAS MINUTA	400.400	209.000	666.600	323.400	46.200	239.800	209.000
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	1696.900	1270.900	2643.400	1597.600	824.100	1323.800	1433.800

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT O 15 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 07 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 12 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 15 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 20 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	108.000	9.000	144.000	90.000	180.000	72.000	63.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MINUTISSIMUS	.000	.000	.000	.000	.000	.000	.000
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	33.600	11.600	27.200	19.200	20.400	20.000	10.800
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
SYNEDRA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
PERIDINIUM GREGARIA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS ASTRAEA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS HANTZSCHII	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	739.200	352.000	563.200	1056.000	1179.200	542.080	211.200
RHODOMONAS MINUTA	334.400	45.540	162.800	189.200	158.400	189.200	70.400
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	1215.200	418.140	897.200	1354.400	1538.000	823.280	355.400

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT Q 07 METRES T AUG 23 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT Q 12 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 20 METRES T AUG 23 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT R 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 07 METRES T AUG 23 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 20 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	207.000	144.000	207.000	72.000	180.000	108.000	90.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MINUTISSIMUS	.000	.000	.000	.000	.000	.000	.000
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	13.200	29.600	18.400	13.600	29.600	36.800	31.200
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHIZOSOLENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS HANTZSCHII	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	316.800	704.000	1108.800	411.840	1443.200	1179.200	1267.200
RHODOMONAS MINUTA	160.600	154.000	261.600	97.900	162.800	332.200	288.200
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	697.600	1031.600	1596.000	595.340	1815.600	1656.200	1676.600

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT S 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 07 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 12 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 15 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 20 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 07 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	144.000	216.000	54.000	90.000	90.000	180.000	126.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR. SPIRALIS	.000	.000	.000	.000	.000	.000	.000
CLOSTERIDIUM LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIA GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	14.400	16.400	32.000	26.400	36.800	16.000	17.600
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYCLOTELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS RINGERANUS	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	528.000	580.800	864.000	560.800	563.200	475.200	792.000
RHODOMONAS MINUTA	89.100	12.320	132.000	89.100	158.400	88.000	215.600
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	775.500	825.520	1080.400	783.300	848.400	759.200	1151.200

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT U 12 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 15 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 20 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 03 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 07 METRES T AUG 23 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT Y 12 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 15 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	.000	.000	.000	.000	.000	.000
CHROOCOCCUS SP	90.000	90.000	234.000	108.000	54.000	36.000	36.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR. ? SPIRILIS	.000	.000	.000	.000	.000	.000	.000
CLOSTERIDIUM LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	28.800	28.800	34.400	16.000	16.000	.400	20.200
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS BINDERANUS	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	897.600	1091.200	560.800	316.800	844.800	28.160	721.600
RHODOMONAS MINUTA	272.800	299.200	255.200	72.600	156.200	2.200	156.200
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	1289.200	1509.200	1104.400	513.400	1071.000	66.760	934.000

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT Y 20 METRES T AUG 23 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 03 METRES T OCT 18 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT M 07 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT M 12 METRES T OCT 18 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT M 15 METRES T OCT 18 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT M 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 03 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	.000	19.800	29.600	31.350	28.050	17.655	32.010
CHROOCOCCUS SP	126.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	.000	1.600	1.400	1.900	2.900	2.100	2.800
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	25.600	3.200	4.400	6.000	6.000	6.400	7.200
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYCLOTELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS BINDERANUS	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	774.400	704.000	2534.400	2076.800	2006.400	2147.200	2569.600
RHODOMONAS MINUTA	165.000	90.200	202.400	123.200	114.400	211.200	193.600
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	1091.000	818.800	2782.200	2239.250	2157.750	2384.555	2805.210

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT O 07 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 12 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 15 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT O 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 03 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 07 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 12 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	17.820	59.400	6.500	5.940	18.810	36.300	11.220
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	1.900	1.500	1.600	2.300	2.100	1.800	2.100
CLOSTERIDIUM LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	8.600	5.000	4.800	4.800	2.200	4.800	1.200
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYCLOTELLA SP	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS BINDERANUS	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	2217.600	2323.200	1443.200	2675.200	1548.800	2252.800	2288.000
RHODOMONAS MINUTA	165.000	167.200	95.700	204.600	147.400	206.800	176.000
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	2410.920	2556.900	1561.800	2892.840	1719.310	2502.500	2478.520

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT P 15 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT P 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 03 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 07 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 12 METRES T OCT 18 1978 1 SAMPLES AVL BIOMASS (MG/M*M*M)	TRANSECT Q 15 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Q 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	14.850	1.980	9.900	16.150	18.150	18.810	21.120
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	.500	1.200	1.800	2.000	1.700	1.400	2.100
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	.400	1.200	5.800	1.200	4.000	5.000	4.000
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
[illegible] SP	.000	.000	.000	.000	.000	.000	.000
[illegible] SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
[illegible] 1	.000	.000	.000	.000	.000	.000	.000
[illegible] GRANULATA	.000	.000	.000	.000	.000	.000	.000
[illegible] SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
[illegible]	.000	.000	.000	.000	.000	.000	.000
[illegible]							
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
[illegible] SP	1689.600	2147.200	1654.400	1372.800	2534.400	1900.800	2604.800
[illegible] MINUTA	176.000	149.600	136.400	112.200	246.400	147.400	239.800
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	1881.350	2301.180	1808.300	1506.350	2804.650	2073.410	2871.820

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN. 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT R 03 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 07 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 12 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 15 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT R 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 03 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 07 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	46.200	18.150	47.850	10.230	22.770	15.510	26.400
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR. FINABILIS	3.000	.900	1.500	1.500	.900	1.200	1.200
CLOSTERIDIUM LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	12.000	7.600	3.200	4.000	2.800	4.000	4.200
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYCLOTELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA TENUE VAR. ANGULATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS BINDERANUS	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	3696.000	2288.000	3273.600	1900.800	1390.400	1865.600	2288.000
CRYPTOMONAS SP	308.000	169.400	200.200	102.800	107.800	200.200	171.600
RHODOMONAS MINUTA	.000	.000	.000	.000	.000	.000	.000
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	4065.200	2484.050	3526.350	2079.330	1524.670	2086.510	2491.400

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT S 12 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT S 15 METRES T OCT 18 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT S 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 03 METRES T OCT 18 1978 1 SAMPLES AVE BIOMASS (MG/M*M*M)	TRANSECT U 07 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 12 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT U 15 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	21.780	30.360	36.300	12.375	5.775	35.310	8.745
CHROOCOCCUS SP	.000	.000	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	1.600	1.300	1.300	2.500	.900	.900	.900
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	4.800	5.200	4.400	10.000	6.000	3.200	4.000
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000	.000	.000
CYMBELLA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000	.000	.000
STEPHANODISCUS BINDERANUS	.000	.000	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000	.000	.000
CRYPTOMONAS SP	2464.000	1584.000	2107.200	1672.000	1056.000	2041.600	2112.000
RHODOMONAS MINUTA	165.000	132.000	105.600	115.500	84.700	211.200	143.000
PERIDINIUM SP	.000	.000	.000	.000	.000	.000	.000
TOTALS	2657.180	1752.860	2305.000	1812.375	1153.375	2292.210	2268.645

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT U 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 03 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 12 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 15 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)	TRANSECT Y 20 METRES T OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M*M*M)
APHANIZOMENON FLOS-AQUAE	28.710	21.120	38.940	22.770	27.555
CHROOCOCCUS SP	.000	.000	.000	.000	.000
OSCILLATORIA SPP	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS	.000	.000	.000	.000	.000
ANKISTRODESMUS FALCATUS VAR BIRADILIS	1.000	1.500	2.000	1.000	1.300
CLOSTERIOPSIS LONGISSIMA	.000	.000	.000	.000	.000
CLOSTERIUM SP	.000	.000	.000	.000	.000
ELAKATOTHRIX GELATINOSA	.000	.000	.000	.000	.000
SCENEDESMUS BIJUGA	5.600	6.400	4.600	5.200	3.800
SCENEDESMUS QUADRICAUDA	.000	.000	.000	.000	.000
ASTERIONELLA GRACILLIMA	.000	.000	.000	.000	.000
CYMBELLA SP	.000	.000	.000	.000	.000
DIATOMA SP	.000	.000	.000	.000	.000
DIATOMA ELONGATUM	.000	.000	.000	.000	.000
FRAGILARIA SP	.000	.000	.000	.000	.000
RHOICOSPHENIA CURVATA	.000	.000	.000	.000	.000
TABELLARIA FENESTRATA	.000	.000	.000	.000	.000
UNIDENTIFIED 1	.000	.000	.000	.000	.000
MELOSIRA GRANULATA	.000	.000	.000	.000	.000
STEPHANODISCUS SP	.000	.000	.000	.000	.000
STEPHANODISCUS NIAGARAE	.000	.000	.000	.000	.000
STEPHANODISCUS BILDERBAUS	.000	.000	.000	.000	.000
DINOBRYON SOCIALE	.000	.000	.000	.000	.000
CRYPTOMONAS SP	1865.600	1249.600	1795.200	2464.000	1971.200
RHODOMONAS MINUTA	176.000	66.000	143.000	136.400	127.600
PERIDINIUM SP	.000	.000	.000	.000	.000
TOTALS	2076.910	1344.620	1983.740	2629.370	2131.455

APPENDIX 3-8 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

PHYTOPLANKTON SPECIES	TRANSECT R 15 METRES N OCT 18 1978 1 SAMPLES AVE. BIOMASS (MG/M**M)
APHANIZOMENON FLOS-AQUAE	25.740
CHROOCOCCUS SP	.000
ANKISTRODESMUS FALCATUS	.000
ANKISTRODESMUS FALCATUS VAR MIRABILIS	2.500
CLOSTERIOPSIS LONGISSIMA	.000
OOCYSTIS SP	.000
SCENEDESMUS BIJUGA	2.800
ASTERIONELLA GRACILLIMA	.000
CYMBELLA SP	.000
DIATOMA SP	.000
RHOICOSPHENIA CURVATA	.000
UNIDENTIFIED 1	.000
MELOSIRA GRANULATA	.000
STEPHANODISCUS SP	.000
STEPHANODISCUS NIAGARAE	.000
STEPHANODISCUS BINDERANUS	.000
DINOBRYON SOCIALE	.000
CRYPTOMONAS SP	1232.000
RHODOMONAS MINUTA	127.600
PERIDINIUM SP	.000
TOTALS	1390.640

APPENDIX 3-9

ANALYSIS OF VARIANCE OF PHYTOPLANKTON DOMINANT SPECIES BIOMASS
ON FOUR SAMPLING DATES
WESLEYVILLE GS A - 1978

Date	Dominant Species	Calculated F Statistic: Transect	Calculated F Statistic: Depth Contour
February 21	*Stephanodiscus niagarae*	NS $1.99_{[7,28]}$	NS $0.31_{[4,28]}$
May 12	*Asterionella gracillima*	* $3.20_{[7,28]}$	** $8.61_{[4,28]}$
August 23	*Cryptomonas sp*	NS $1.08_{[7,14]}$	* $4.84_{[2,14]}$
October 18	*Cryptomonas sp*	NS $0.69_{[7,28]}$	NS $1.22_{[4,28]}$

NS - Not significant

* - Significant at α .05

** - Significant at α .01

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES
LOCATION AND DATE VERSUS SPECIES

APPENDIX 3-10

SITE: WESLEYVILLE
YEAR: 1978

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES (No/m^3)
FROM FEBRUARY TO OCTOBER 1978, WESLEYVILLE GS A

	TRANSECT U 03 METRES T			TRANSECT U 07 METRES T			TRANSECT U 12 METRES T
	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	130	7500	39000	0	6000	57000	0
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	390	0	0	130	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	0	0	0	300	1000	0
TRICHOCERCA MULTICRINIS	0	300	1000	0	0	3000	0
TRICHOCERCA PORCELLUS	0	0	0	0	0	1000	0
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	0	18900	43000	0	9600	57000	0
SYNCHAETA SPP	23790	600	45000	1300	3300	74000	650
PLOESOMA SPP	0	1200	1000	0	600	2000	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	0	0	0	0	0
CONOCHILUS UNICORNIS	0	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	0	20	3[illegible]0	0	20	160	0
CERIODAPHNIA SPP	0	40	640	0	0	800	0
BOSMINA LONGIROSTRIS	0	860	33600	0	260	72480	0
EUBOSMINA COREGONI	0	20	0	0	0	0	0
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	20	0	0	20	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EURYTEMORA AFFINIS	0	20	160	0	0	160	0
DIAPTOMUS OREGONENSIS	13	0	0	13	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	13	0	0	0
CALANOIDA NAUPLIAR STAGES	1690	0	4000	2340	300	6000	1170
CALANOID COPEPODITE STAGES	13	0	0	13	0	160	39
TROPOCYCLOPS PRASINUS	0	0	860	0	0	1600	0
DIACYCLOPS BICUSPIDATUS THOMASI	26	180	2400	13	200	6880	0
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	9230	1500	10000	2210	0	28000	2860
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	35282	31160	186980	[illegible]	20600	311240	4719

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TABLE ON ZOOPLANKTON AVERAGE DENSITIES
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT S 15 METRES T				TRANSECT S 20 METRES T		
	FEB 31, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	0	260	78000	120000	0	26100	147000
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	0	600	2000	0	0	2000
TRICHOCERCA MULTICRINIS	0	0	1800	5000	0	600	2000
TRICHOCERCA PORCELLUS	0	0	0	1000	0	0	4000
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	0	0	178800	61000	0	103000	40000
SYNCHAETA SPP	0	1040	1800	47000	130	4500	78000
PEDALIA SPP	0	0	3000	2000	0	2400	4000
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	3000	0	0	800	0
CONOCHILUS UNICORNIS	0	0	12600	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	80	0	0	0
DAPHNIA GALEATA MENDOTAE	0	0	7920	1120	0	1500	3200
CERIODAPHNIA SPP	0	0	3200	560	0	460	960
BOSMINA LONGIROSTRIS	0	0	38000	14240	0	3420	12800
EUBOSMINA COREGONI	0	0	240	800	0	0	1920
CHYDORUS SPP	0	0	0	0	0	0	320
POLYPHEMUS PEDICULUS	0	0	0	0	0	40	0
LEPTODIAPTOMUS MACRURUS	0	0	0	0	0	0	0
EPISCURA AFFINIS	0	0	240	480	0	140	640
DIAPTOMUS OREGONENSIS	0	0	0	0	0	20	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR	550	2470	2400	2000	910	900	1000
STAGES							
CALANOID COPEPODITE	13	26	160	640	26	40	1920
STAGES							
TROPOCYCLOPS PRASINUS	0	0	0	1760	0	0	6400
DIACYCLOPS BICUSPIDATUS	66	39	4640	13200	0	1300	17600
THOMASI							
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR	279	3380	5400	21000	1950	1800	25000
STAGES							
CYCLOPOIDA COPEPODITE	0	0	0	0	0	0	0
STAGES							
TOTAL	916	7215	342120	293080	3016	147020	356760

TAF[illegible]ION [illegible]OOP[illegible]ON [illegible]AGE [illegible]ITI[illegible]
LOCATION AND DATE .VERSUS. SPECIES

SITE. WESLEYVILLE
YEAR. 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT S 07 METRES T				TRANSECT S 12 METRES T		
	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	198	130	4500	51000	260	5700	110000
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	66	0	0	1000	130	300	1000
TRICHOCERCA MULTICRINIS	0	0	0	3000	0	0	8000
TRICHOCERCA PORCELLUS	0	0	0	1000	0	0	2000
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	1000
POLYARTHRA SPP	0	0	7200	62000	0	29700	54000
SYNCHAETA SPP	0	3640	300	56000	2080	1500	51000
PLOESOMA SPP	0	0	1200	2000	0	2700	1000
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	0	0	0	0	0
CONOCHILUS UNICORNIS	0	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	320	0	0	320
DAPHNIA GALEATA MENDOTAE	0	0	200	960	0	40	960
CERIODAPHNIA SPP	0	0	100	320	0	60	320
BOSMINA LONGIROSTRIS	0	0	1200	36480	0	480	25280
EUBOSMINA COREGONI	0	0	60	960	0	0	1440
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	180	0	0	40	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EUDIAPTOMUS ZETTINI	0	0	20	1280	0	60	640
DIAPTOMUS OREGONENSIS	0	0	0	0	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOID NAUPLIAR STAGES	792	780	600	9000	2600	0	5000
CALANOID COPEPODITE STAGES	13	26	0	320	78	0	420
TROPOCYCLOPS PRASINUS	0	0	0	2240	0	0	5600
DIACYCLOPS BICUSPIDATUS THOMASI	93	0	720	9280	39	380	16960
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOID NAUPLIAR STAGES	132	2210	900	17000	4290	0	21000
CYCLOPOID COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	1294	6786	17240	254160	9477	40960	306000

SITE: WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT R 20 METRES T			TRANSECT S 03 METRES T			
	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	0	19200	140000	372	0	5400	70000
KERATELLA QUADRATA	130	300	0	0	0	300	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	130	0	0	93	0	0	0
NOTHOLCA FOLIACEA	130	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	390	0	3000	0	0	0	0
TRICHOCERCA MULTICRINIS	0	300	2000	0	0	300	4000
TRICHOCERCA PORCELLUS	0	0	3000	0	0	0	1000
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	1000	0	0	0	0
POLYARTHRA SPP	0	39900	65000	0	0	15600	80000
SYNCHAETA SPP	2860	6000	59000	186	9750	0	71000
PEDALIONA SPP	0	1500	0	0	0	1500	4000
DIPLOPS HUDSONI	0	0	0	0	0	300	0
FILINIA TERMINALIS	0	0	0	0	0	0	0
CONOCHILUS UNICORNIS	0	0	1000	0	0	0	0
HOLOPEDIUM GIBERUM	0	20	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	0	400	1760	0	0	460	960
CERIODAPHNIA SPP	0	240	320	0	0	20	320
BOSMINA LONGIROSTRIS	0	3700	3520	0	13	2100	32800
EUBOSMINA COREGONI	0	120	1440	0	13	20	640
CHYDORUS SPP	0	20	0	0	0	0	160
POLYPHEMUS PEDICULUS	0	40	0	0	0	60	0
LEPTODIAPTOMUS MACRURUS	0	0	0	0	0	0	0
EPISCHURA AFFINIS	0	100	160	0	0	20	320
DIAPTOMUS OREGONENSIS	0	0	0	13	13	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	1560	300	6000	1116	1560	300	2000
CALANOID COPEPODITE STAGES	65	40	960	0	0	0	0
TROPOCYCLOPS PRASINUS	13	0	3840	0	13	0	1760
DIACYCLOPS BICUSPIDATUS THOMASI	13	1000	17120	133	26	520	2560
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	4420	1200	23000	93	6240	0	21000
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	9711	74300	341120	2006	17620	26900	292520

ABUNDANCE OF ZOOPLANKTON AVERAGE DENSITIES
LOCATION AND DATE VERSUS SPECIES

SITE: WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT R 15 METRES M			TRANSECT R 15 METRES T			
	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	260	174000	106000	0	0	52200	161000
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	130	0	0	198	390	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	1200	3000	0	0	600	0
TRICHOCERCA MULTICRINIS	0	3000	6000	0	0	300	6000
TRICHOCERCA PORCELLUS	0	0	4000	0	0	0	6000
CHROSOMASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	1000
POLYARTHRA SPP	0	176400	60000	66	0	74400	72000
SYNCHAETA SPP	7280	6600	53000	0	2860	14700	72000
PEDISTA SPP	0	1800	1000	0	0	3000	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	2400	0	0	0	600	0
CONOCHILUS UNICORNIS	0	4800	0	0	0	6600	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	20	0
DAPHNIA GALEATA MENDOTAE	0	21120	3840	0	0	300	1600
CERIODAPHNIA SPP	0	2560	1440	0	0	300	400
BOSMINA LONGIROSTRIS	0	261760	9280	0	0	2340	4480
EUBOSMINA COREGONI	0	640	2880	0	0	80	640
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	0	0	0
LEPTODIAPTOMUS MACRURUS	13	0	0	0	0	0	0
EURYTEMORA AFFINIS	0	640	640	0	0	200	400
DIAPTOMUS OREGONENSIS	572	0	0	0	13	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	80
DIAPTOMUS SICILIS	91	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	5850	2400	4000	858	2990	1500	5000
CALANOID COPEPODITE STAGES	208	1280	1280	13	65	60	640
TROPOCYCLOPS PRASINUS	0	0	4320	0	0	20	2880
DIACYCLOPS BICUSPIDATUS THOMASI	39	24960	10560	27	13	720	14960
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	160
CYCLOPOIDA NAUPLIAR STAGES	9490	12800	13000	0	2860	4200	16000
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	25931	698160	284240	1160	9191	162140	385240

TABU[redacted]ON [redacted]OPL[redacted]ON [redacted]GE [redacted]TIE[redacted]
LOCATION AND DATE .VERSUS. SPECIES

APPENDIX 3-10 (Cont'd)

SITE. WESLEYVILLE
YEAR. 1978

	TRANSECT R 12 METRES T		TRANSECT R 15 METRES B				TRANSECT R 15 METRES M
	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	30300	114000	0	0	102600	110400	186
KERATELLA QUADRATA	300	0	0	0	3600	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	198	0	0	0	93
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	300	3000	0	0	3000	1800	186
TRICHOCERCA MULTICRINIS	600	3000	0	0	3000	4800	0
TRICHOCERCA PORCELLUS	0	9000	0	0	0	3000	0
CHROMOCASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	600	0
POLYARTHRA SPP	39000	33000	0	0	226800	12000	0
SYNCHAETA SPP	1800	60000	0	3640	6600	51600	93
PLOESONA SPP	1200	0	0	0	3000	600	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	0	0	3600	0	0
CONOCHILUS UNICORNIS	300	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	0
DAPHNIA GALLATA MENDOTAE	1120	1760	0	0	10240	1920	0
CERIODAPHNIA SPP	80	320	0	0	1280	160	0
BOSMINA LONGIROSTRIS	15680	13760	13	0	137600	12480	0
EUBOSMINA COREGONI	0	1600	0	0	320	2240	0
CHYDORUS SPP	0	0	0	52	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	0	0	0
LIMNOCALANUS MACRURUS	0	0	13	65	0	0	0
LURYTEMORA AFFINIS	80	480	0	13	0	0	0
DIAPTOMUS OREGONENSIS	0	0	80	312	0	0	40
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	13	52	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	300	6000	1320	5460	3000	1800	1116
CALANOID COPEPODITE STAGES	0	1120	120	299	0	1920	40
TROPOCYCLOPS PRASINUS	0	3360	13	0	0	4320	0
DIACYCLOPS BICUSPIDATUS THOMASI	2080	13120	166	117	11200	17120	27
ACANTHOCYCLOPS VERNALIS	0	0	0	130	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	3900	15000	462	10270	19200	18000	279
CYCLOPOIDA COPEPODITE STAGES	0	0	0	39	0	0	0
TOTAL	97040	278520	24[illegible]8	20449	535040	244760	2060

APPENDIX 3-10 (Cont'd)

	TRANSECT R 03 METRES T			TRANSECT R 07 METRES T			TRANSECT R 12 METRES T
	MAY 12. 1978 1 SAMPLE(S)	AUG 23. 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)	MAY 12. 1978 1 SAMPLE(S)	AUG 23. 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)	MAY 12. 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	300	0	0	0	0	0
KERATELLA COCHLEARIS	0	16800	54000	0	29400	132000	0
KERATELLA QUADRATA	0	300	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	130	0	0	130	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	0	1000	130	300	1000	130
TRICHOCERCA MULTICRINIS	0	300	1000	0	300	4000	0
TRICHOCERCA PORCELLUS	0	0	0	0	0	4000	0
CHROMOGASTER OVALIS	130	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	130	59100	32000	0	36800	65000	0
SYNCHAETA SPP	15860	8700	44000	4680	7500	51000	3380
PEDISCHIA SPP	0	7800	2000	0	2700	1000	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	300	0	0	300	0	0
CONOCHILUS UNICORNIS	0	300	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	320	0
DAPHNIA GALLEATA MENDOTAE	0	1000	960	0	1560	2240	0
CERIODAPHNIA SPP	0	260	800	0	700	160	0
BOSMINA LONGIROSTRIS	26	5000	18560	0	10520	12800	0
EUBOSMINA COREGONI	0	0	1440	0	0	1120	0
CHYDORUS SPP	0	0	0	13	0	0	0
POLYPHEMUS PEDICULUS	0	100	0	0	220	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EPISCHURA LACUSTRIS	0	20	480	0	320	160	0
DIAPTOMUS OREGONENSIS	0	0	0	39	0	0	65
LEPTODIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	1300	900	6000	2340	2700	7000	2470
CALANOID COPEPODITE STAGES	13	0	640	91	60	160	91
TROPOCYCLOPS PRASINUS	13	0	4640	0	0	6080	0
DIACYCLOPS BICUSPIDATUS THOMASI	0	660	9760	26	1480	7520	52
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	3900	1200	13000	4550	3600	34000	4550
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	21502	103040	192280	11999	98460	329560	10738

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

SITE. WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT Q 15 METRES T				TRANSECT Q 20 METRES T		
	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	160	0	12300	63000	0	8200	83000
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	160	260	300	1000	0	200	3000
TRICHOCERCA MULTICRINIS	0	0	300	5000	0	200	9000
TRICHOCERCA PORCELLUS	0	0	0	0	0	0	1000
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	0	0	46200	21000	0	19400	19000
SYNCHAETA SPP	0	260	6000	40000	1690	3800	28000
PEDIASTRUM SPP	0	0	1200	1000	0	200	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
KELLICOTTIA BOSMINALIS	0	0	1200	0	0	600	0
CONOCHILUS UNICORNIS	0	0	4500	0	0	200	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	160
DAPHNIA GALEATA MENDOTAE	0	0	80	1200	0	0	960
CERIODAPHNIA SPP	0	0	40	160	0	20	320
BOSMINA LONGIROSTRIS	0	0	1000	5920	13	580	8480
EUBOSMINA COREGONI	0	0	20	320	0	20	640
CHYDORUS SPP	0	0	20	0	0	0	0
DIAPHANOSOMA PEDICULUS	0	0	20	0	0	20	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EPISCHURA LACUSTRIS	0	0	20	0	0	20	480
DIAPTOMUS OREGONENSIS	0	0	0	0	13	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	26	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	560	390	1200	1000	780	0	1000
CALANOID COPEPODITE STAGES	13	52	20	1120	13	0	960
TROPOCYCLOPS PRASINUS	0	0	0	3520	0	0	4160
DIACYCLOPS BICUSPIDATUS THOMASI	0	13	340	10240	0	180	9600
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	160	1950	900	17000	2210	400	12000
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	1053	2925	75600	171500	4745	34040	181760

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES.
LOCATION AND DATE .VERSUS. SPECIES

SITE. WESLEYVILLE
YEAR. 1978

APPENDIX 3-1b (Cont'd)

	TRANSECT Q 07 METRES T				TRANSECT Q 12 METRES T		
	FEB 21. 1978 1 SAMPLE(S)	MAY 12. 1978 1 SAMPLE(S)	AUG 23 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)	MAY 12. 1978 1 SAMPLE(S)	AUG 23. 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	132	130	6600	62000	130	4200	79000
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA TESTUDO	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	130	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	0	300	2000	0	300	2000
TRICHOCERCA MULTICRINIS	0	0	900	2000	0	0	4000
TRICHOCERCA PORCELLUS	0	0	0	0	0	0	0
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	0	0	20100	22000	0	9600	26000
SYNCHAETA SPP	0	5980	3900	30000	5460	2100	40000
PLOESOMA SPP	0	0	900	1000	0	600	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	300	0	0	0	0
CONOCHILUS UNICORNIS	0	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	320
DAPHNIA GALEATA MENDOTAE	0	0	40	320	0	0	1760
CERIODAPHNIA SPP	0	0	100	0	0	20	320
BOSMINA LONGIROSTRIS	0	13	840	5440	0	560	9280
EUBOSMINA COREGONI	27	0	0	0	13	0	1120
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	40	0	0	20	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	160
EURYTEMORA AFFINIS	0	0	180	0	0	60	0
DIAPTOMUS OREGONENSIS	0	0	0	0	13	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	990	1430	900	7000	2080	0	4000
CALANOID COPEPODITE STAGES	0	52	0	320	52	0	480
TROPOCYCLOPS PRASINUS	0	0	0	640	0	0	5920
DIACYCLOPS BICUSPIDATUS THOMASI	93	13	0	10240	39	240	8320
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	65	4550	600	14000	4420	0	16000
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	1308	12298	35700	156960	12207	17700	156080

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT P 20 METRES T			TRANSECT Q 03 METRES T			
	MAY 12. 1978 1 SAMPLE(S)	AUG 23 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)	FEB 21. 1978 1 SAMPLE(S)	MAY 12. 1978 1 SAMPLE(S)	AUG 23. 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	0	13600	128000	0	0	5700	47000
KERATELLA QUADRATA	0	0	0	66	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	660	130	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	1000
KELLICOTTIA LONGISPINA	0	200	3000	66	0	900	1000
TRICHOCERCA MULTICRINIS	0	0	3000	0	0	300	0
TRICHOCERCA PORCELLUS	0	0	0	0	0	0	0
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	200	0	0	0	0	0
POLYARTHRA SPP	0	31400	25000	66	520	23400	43000
SYNCHAETA SPP	1560	6000	41000	198	115310	1200	26000
PROLOSOMA SPP	0	600	1000	0	0	1800	1000
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	600	0	0	0	0	0
CONOCHILUS UNICORNIS	0	400	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	0
DAPHNIA GALLATA MENDOTAE	0	40	2240	0	0	200	0
CERIODAPHNIA SPP	0	40	320	0	0	0	0
BOSMINA LONGIROSTRIS	0	960	9760	0	78	1760	13760
EUBOSMINA COREGONI	0	20	640	13	0	0	0
CHYDORUS SPP	0	0	0	0	0	40	0
POLYPHEMUS PEDICULUS	0	20	0	0	0	20	0
LEPTODIAPTOMUS MACRURUS	0	0	0	0	0	0	0
LEPTODORA AFFINIS	0	20	320	0	0	0	320
DIAPTOMUS OREGONENSIS	13	0	0	13	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	13	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	1690	0	3000	1914	1300	900	0
CALANOID COPEPODITE STAGES	26	0	480	13	0	0	0
TROPOCYCLOPS PRASINUS	0	0	3360	13	0	0	1280
DIACYCLOPS BICUSPIDATUS THOMASI	0	360	9440	40	52	580	1600
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	3640	400	28000	330	7280	300	17000
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	6929	54880	256160	3105	124670	37100	152960

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

APPENDIX 3-10 (Cont'd)

SITE: WESLEYVILLE
YEAR 1978

	TRANSECT P 07 METRES T	TRANSECT P 12 METRES T			TRANSECT P 15 METRES T		
	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	102000	0	2760	85000	0	11400	107000
KERATELLA QUADRATA	0	0	0	0	0	0	1000
KERATELLA HIEMALIS	0	0	30	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	0	30	1000	130	0	1000
TRICHOCERCA MULTICRINIS	5000	0	0	2000	0	300	6000
TRICHOCERCA PORCELLUS	0	0	0	2000	0	0	0
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	10000	0	4200	16000	0	20400	12000
SYNCHAETA SPP	32000	780	1080	48000	2340	5400	37000
PEDIASTA SPP	0	0	120	1000	0	2100	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	60	0	0	600	0
CONOCHILUS UNICORNIS	0	0	30	0	0	0	0
HOLOPEDIUM GIBBERUM	160	0	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	1120	0	0	1280	0	40	2400
CERIODAPHNIA SPP	640	0	0	640	0	40	480
BOSMINA LONGIROSTRIS	2240	13	384	8320	13	500	8000
EUBOSMINA COREGONI	1440	0	8	640	0	20	800
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	0	40	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EURYTEMORA AFFINIS	480	0	240	160	0	40	320
DIAPTOMUS OREGONENSIS	0	0	0	0	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	6000	780	300	4000	1560	600	3000
CALANOID COPEPODITE STAGES	1440	13	0	480	65	0	480
TROPOCYCLOPS PRASINUS	3840	0	0	5280	0	0	6560
DIACYCLOPS BICUSPIDATUS THOMASI	6720	0	180	12960	0	220	10560
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	19000	2990	600	14000	2080	0	25000
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	192080	4576	88320	202760	6188	41700	221600

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES.
LOCATION AND DATE VERSUS SPECIES

SITE. WESTYVILLE
YEAR. 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT O 20 METRES T		TRANSECT P 03 METRES T			TRANSECT P 07 METRES T	
	AUG 23 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)	MAY 12. 1978 1 SAMPLE(S)	AUG 23. 1978 1 SAMPLE(S)	OCT 18. 1978 1 SAMPLE(S)	MAY 12. 1978 1 SAMPLE(S)	AUG 23. 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	420	144000	130	1800	52000	0	10800
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	260	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	1000	0	0	1000	0	0
TRICHOCERCA MULTICRINIS	0	2000	0	200	0	0	0
TRICHOCERCA PORCELLUS	0	5000	0	0	0	0	0
CHROMOGASTER OVALIS	0	0	4420	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	2400	16000	0	11200	25000	0	42800
SYNCHAETA SPP	1500	50000	12480	1400	40000	2860	7800
PLOESOMA SPP	0	1000	0	1200	7000	0	600
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	300	0	0	0	0	0	200
CONOCHILUS UNICORNIS	300	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	160	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	20	1440	0	40	0	0	20
CERIODAPHNIA SPP	0	800	0	40	320	0	100
BOSMINA LONGIROSTRIS	360	7040	0	9740	20480	0	780
EUBOSMINA COREGONI	0	1280	0	40	1280	0	0
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	0	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EURYTEMORA AFFINIS	0	480	0	0	320	0	20
DIAPTOMUS OREGONENSIS	0	0	26	0	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	300	5000	2600	200	3000	650	600
CALANOID COPEPODITE STAGES	0	1120	13	20	0	13	0
TROPOCYCLOPS PRASINUS	0	6080	0	0	3520	0	0
DIACYCLOPS BICUSPIDATUS THOMASI	40	13920	78	120	6400	0	200
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	0	21000	3770	200	11000	1820	400
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	9420	277320	25777	26200	171320	5343	64320

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES.
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT 0 12 METRES T		TRANSECT 0 15 METRES T				TRANSECT 0 20 METRES T
	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 2 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	4500	120000	0	0	7400	173000	0
KERATELLA QUADRATA	0	0	0	0	0	8000	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	1000	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	4000	0	0	200	17000	260
TRICHOCERCA MULTICRINIS	0	4000	0	0	0	5000	0
TRICHOCERCA PORCELLUS	0	1000	0	0	0	4000	0
CHROMOGASTER OVALIS	0	0	0	0	0	0	390
ASPLANCHNA SPP	0	1000	0	0	0	1000	0
POLYARTHRA SPP	4500	19000	0	0	7800	62000	0
SYNCHAETA SPP	2400	47000	186	2080	2600	87000	2340
PLOESOMA SPP	300	1000	0	0	200	0	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	0	0	200	0	0
CONOCHILUS UNICORNIS	0	0	0	0	1400	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	120	480	0	0	0	3040	0
CERIODAPHNIA SPP	0	0	0	0	40	160	0
BOSMINA LONGIROSTRIS	960	4800	0	0	500	9600	0
EUBOSMINA COREGONI	60	1280	0	0	0	2880	0
CHYLORUS SPP	0	160	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	0	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
SKISTODIAPTOMUS OREGONENSIS	0	640	0	0	40	160	0
DIAPTOMUS OREGONENSIS	0	0	0	0	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	13	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	300	3000	837	780	0	3000	2860
CALANOID COPEPODITE STAGES	0	160	13	26	0	2400	52
TROPOCYCLOPS PRASINUS	0	3520	0	0	0	7520	0
DIACYCLOPS BICUSPIDATUS THOMASI	200	9760	80	0	60	19520	26
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	0	17000	186	2990	400	38000	3380
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	13340	237000	1315	5876	20840	444280	9308

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT 0 03 METRES T		TRANSECT 0 07 METRES T				TRANSECT 0 12 METRES T
	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 2 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	5400	66000	93	0	4400	92000	0
KERATELLA QUADRATA	0	1000	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	200	2000	93	0	0	0	0
TRICHOCERCA MULTICRINIS	200	0	0	0	0	5000	0
TRICHOCERCA PORCELLUS	0	2000	0	0	0	2000	0
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	15000	54000	0	0	6200	7000	0
SYNCHAETA SPP	1800	62000	93	3510	4000	42000	1690
PLOESOMA SPP	3600	7000	0	0	1000	5000	0
DIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	0	0	0	0	0
CONOCHILUS UNICORNIS	0	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	60	640	0	0	60	320	0
CERIODAPHNIA SPP	0	320	0	0	0	320	0
BOSMINA LONGIROSTRIS	4140	38400	0	0	1780	6560	0
EUBOSMINA COREGONI	60	0	0	0	20	480	0
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	40	0	0	0	0	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EURYTEMORA AFFINIS	60	0	0	0	20	640	0
DIAPTOMUS OREGONENSIS	0	0	0	13	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	200	1000	279	1300	0	2000	1170
CALANOID COPEPODITE STAGES	0	1280	0	78	0	800	39
TROPOCYCLOPS PRASINUS	0	640	0	0	0	2080	0
DIACYCLOPS BICUSPIDATUS THOMASI	220	5120	40	39	380	9280	0
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	200	17000	558	4420	1000	20000	3120
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	31180	288400	1150	9360	18860	195480	6019

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESTYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT M 15 METRES T		TRANSECT M 20 METRES T			TRANSECT O 03 METRES T	
	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	4800	149000	0	3600	117600	0	260
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	372	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	3000	130	600	1800	0	0
TRICHOCERCA MULTICRINIS	0	5000	0	0	4200	0	0
TRICHOCERCA PORCELLUS	0	10000	0	0	5400	0	0
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	7800	19000	0	2600	10600	0	0
SYNCHAETA SPP	1800	71000	1820	1200	27000	0	17550
PLOESOMA SPP	300	1000	0	0	600	0	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	300	0	0	200	0	0	0
CONOCHILUS UNICORNIS	0	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	160	0	0
DAPHNIA GALLATA MENDOTAE	20	2080	0	60	800	0	0
CERIODAPHNIA SPP	0	480	0	0	160	0	0
BOSMINA LONGIROSTRIS	300	7680	0	360	3360	0	39
EUBOSMINA COREGONI	20	800	0	0	960	0	0
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	0	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
EURYTEMORA AFFINIS	40	0	0	20	0	0	0
DIAPTOMUS OREGONENSIS	0	0	0	0	0	0	26
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	13
DIAPTOMUS ASHLANDI	0	0	130	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	300	4000	2080	0	0	1302	3250
CALANOID COPEPODITE STAGES	60	1760	130	0	800	27	13
TROPOCYCLOPS PRASINUS	0	5440	0	0	2720	0	0
DIACYCLOPS BICUSPIDATUS THOMASI	80	16160	26	140	11880	146	26
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	0	19000	3380	0	20400	93	6240
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	15820	318400	7579	8800	216440	1940	27417

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

APPENDIX 3-10 (Cont'd)

SITE: WESLEYVILLE
YEAR: 1978

	TRANSECT M 07 METRES T		TRANSECT M 12 METRES T			TRANSECT M 15 METRES T	
	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 19 8 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	)	0	0	0	0
KERATELLA COCHLEARIS	6300	133000	13)	13200	95400	53	0
KERATELLA QUADRATA	0	0	)	300	0	0	0
KERATELLA HIEMALIS	0	0	)	0	0	0	0
NOTHOLCA SQUAMULA	0	0	)	0	0	0	0
NOTHOLCA FOLIACEA	0	0	)	0	0	0	0
KELLICOTTIA LONGISPINA	0	1000	)	0	900	0	0
TRICHOCERCA MULTICRINIS	0	3000	)	0	3600	0	0
TRICHOCERCA PORCELLUS	0	2000	)	0	2400	0	0
CHROMOGASTER OVALIS	0	0	)	0	0	0	0
ASPLANCHNA SPP	0	1000	)	0	300	0	0
POLYARTHRA SPP	7200	41000	)	11100	26400	0	0
SYNCHAETA SPP	3600	49000	767)	5400	30900	0	3640
PEDIASTRA SPP	0	1000	)	600	600	0	0
BIPALPUS HUDSONI	0	0	)	0	0	0	0
FILINIA TERMINALIS	0	0	)	1500	0	0	0
CONOCHILUS UNICORNIS	0	0	)	0	0	0	0
HOLOPEDIUM GIBBERUM	0	160	)	0	160	0	0
DAPHNIA GALEATA MENDOTAE	0	1280	)	20	800	0	0
CERIODAPHNIA SPP	40	0	)	40	320	0	0
BOSMINA LONGIROSTRIS	140	7200	)	660	4160	13	0
EUBOSMINA COREGONI	40	1120	)	40	800	0	0
CHYDORUS SPP	0	0	)	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	)	20	0	0	0
LIMNOCALANUS MACRURUS	0	0	)	0	0	0	0
ECRYTERORA AFFINIS	0	0	)	0	640	0	0
DIAPTOMUS OREGONENSIS	0	0	)	0	0	0	26
DIAPTOMUS MINUTUS	0	0	)	0	0	0	0
DIAPTOMUS SICILIS	0	0	)	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	)	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	)	0	0	0	0
CALANOIDA NAUPLIAR STAGES	0	3000	1040	600	2400	689	910
CALANOID COPEPODITE STAGES	0	1280	13	0	320	0	26
TROPOCYCLOPS PRASINUS	0	4480	0	0	3040	0	0
DIACYCLOPS BICUSPIDATUS THOMASI	180	10400	13	600	10880	53	0
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	0	25000	5590	0	16800	159	3900
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	17500	2849[illegible]0	1445[illegible]	34080	230820	967	9502

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESLEYVILLE
YEAR: 1978

APPENDIX 3-10 (Cont'd)

	TRANSECT K 07 METRES T	TRANSECT M 03 METRES T				TRANSECT M 07 METRES T	
	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	FEB 21, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	75000	53	0	5100	67000	198	0
KERATELLA QUADRATA	0	0	0	0	0	0	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	53	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	2000	0	0	0	2000	66	0
TRICHOCERCA MULTICRINIS	3000	0	0	0	3000	0	0
TRICHOCERCA PORCELLUS	3000	0	0	0	2000	0	0
CHROMOGASTER OVALIS	0	0	1300	0	0	0	0
ASPLANCHNA SPP	0	0	0	0	1000	0	0
POLYARTHRA SPP	16000	0	0	17100	52000	0	0
SYNCHAETA SPP	37000	0	69550	7500	45000	66	17290
PLOESONA SPP	0	0	0	600	2000	0	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	0	300	0	0	0
CONOCHILUS UNICORNIS	0	0	0	0	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	80	0	0
DAPHNIA GALEATA MENDOTAE	2240	0	0	20	240	0	0
CERIODAPHNIA SPP	1280	0	0	20	320	0	0
BOSMINA LONGIROSTRIS	22720	0	13	180	9200	40	0
EUBOSMINA COREGONI	1280	0	0	20	320	0	0
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	60	0	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	39
EURYTEMORA AFFINIS	640	0	13	40	560	0	0
DIAPTOMUS OREGONENSIS	0	0	0	0	0	0	13
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	13
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	3000	636	2600	300	2000	396	2600
CALANOID COPEPODITE STAGES	960	0	13	0	160	0	39
TROPOCYCLOPS PRASINUS	4160	0	26	0	1760	0	13
DIACYCLOPS BICUSPIDATUS THOMASI	12480	13	169	400	7120	40	208
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	12000	53	9100	900	21000	198	4810
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	[illegible]	[illegible]	[illegible]	[illegible]	216760	1004	25025

APPENDIX 3-10 (Cont'd)

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE VERSUS. SPECIES

SITE: WESTPORT
YEAR: 1978

	TRANSECT V 30 METRES T	
	AUG 23, 1978 2 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0
KERATELLA COCHLEARIS	8400	84000
KERATELLA QUADRATA	600	0
KERATELLA HIEMALIS	0	0
NOTHOLCA SQUAMULA	0	0
NOTHOLCA FOLIACEA	0	0
KELLICOTTIA LONGISPINA	600	0
TRICHOCERCA MULTICRINIS	0	2000
TRICHOCERCA PORCELLUS	0	2000
CHROMOGASTER OVALIS	0	0
ASPLANCHNA SPP	0	0
POLYARTHRA SPP	23100	25000
SYNCHAETA SPP	0	15000
PEDIASTRUM SPP	300	0
BIPALPUS HUDSONI	0	0
FILINIA TERMINALIS	300	0
CONOCHILUS UNICORNIS	2100	0
HOLOPEDIUM GIBBERUM	0	0
DAPHNIA GALEATA MENDOTAE	160	640
CERIODAPHNIA SPP	320	0
BOSMINA LONGIROSTRIS	460	2880
EUBOSMINA COREGONI	20	1280
CHYDORUS SPP	0	0
POLYPHEMUS PEDICULUS	20	0
LEPTODIAPTOMUS MACRURUS	0	0
EPISCHURA AFFINIS	180	0
DIAPTOMUS OREGONENSIS	0	0
DIAPTOMUS MINUTUS	0	0
DIAPTOMUS SICILIS	0	0
DIAPTOMUS ASHLANDI	0	0
DIAPTOMUS SICILOIDES	0	0
CALANOIDA NAUPLIAR STAGES	0	2000
CALANOID COPEPODITE STAGES	0	0
TROPOCYCLOPS PRASINUS	40	2240
DIACYCLOPS BICUSPIDATUS THOMASI	860	7680
ACANTHOCYCLOPS VERNALIS	0	0
MESOCYCLOPS EDAX	0	0
CYCLOPOIDA NAUPLIAR STAGES	1200	19000
CYCLOPOIDA COPEPODITE STAGES	0	0
TOTAL	38560	183720

@XQT ZOOPLANKTON.SPATL-TEMPRL

ZOOPLANKTON SPATIAL AND TEMPORAL VARIABILITY PROGRAM.

ZOOPLANKTON DATA BASE OPENED... CYCLE 382

APPENDIX 3-10 (Cont'd)

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES (No/m^3) FOR FEBRUARY TO OCTOBER 1978, WESLEYVILLE GS 'A'

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESLEYVILLE
YEAR: 1978

	TRANSECT U 29 METRES T	TRANSECT Y 83 METRES T			TRANSECT Y 87 METRES T		
	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	65000	0	37500	67000	260	9900	121000
KERATELLA QUADRATA	0	0	900	0	0	330	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	1000	0	600	0	130	600	4000
TRICHOCERCA MULTICRINIS	1300	0	600	1000	0	600	6000
TRICHOCERCA PORCELLUS	2000	0	0	0	0	0	1000
CHROMOGASTER OVALIS	0	0	0	0	0	0	0
ASPLANCHNA SPP	1000	0	0	0	0	0	0
POLYARTHRA SPP	21000	0	31800	69000	0	31800	153000
SYNCHAETA SPP	12000	8450	6300	44000	9360	6300	39000
PLOESOMA SPP	0	0	1500	2000	0	1500	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	0	0	0	0	0	0
CONOCHILUS UNICORNIS	0	0	0	1000	0	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	0	0	20	3200	0	20	320
CERIODAPHNIA SPP	0	0	0	960	0	80	160
BOSMINA LONGIROSTRIS	1920	0	500	24000	0	1860	6240
EUBOSMINA COREGONI	800	0	20	1280	13	40	1600
CHYDORUS SPP	0	0	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	0	0	0
LEPTODIAPTOMUS MACRURUS	0	0	0	0	0	0	0
EURYTEMORA AFFINIS	160	0	20	0	0	20	160
DIAPTOMUS OREGONENSIS	0	0	0	0	0	0	0
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	0	3120	900	2000	4680	300	4000
CALANOID COPEPODITE STAGES	320	13	0	320	13	0	1120
TROPOCYCLOPS PRASINUS	960	0	0	1280	0	0	2560
DIACYCLOPS BICUSPIDATUS THOMASI	2720	0	940	13440	52	340	7200
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	0	0
CYCLOPOIDA NAUPLIAR STAGES	15000	4160	3300	12000	2210	300	23033
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	125480	15743	84900	222480	16718	53960	371360

APPENDIX 3-10 (Cont'd)

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES (No/m^3) FOR FEBRUARY TO OCTOBER 1978, WESLEYVILLE GS 'A'

TABULATION OF ZOOPLANKTON AVERAGE DENSITIES:
LOCATION AND DATE .VERSUS. SPECIES

SITE: WESLEYVILLE
YEAR: 1978

	TRANSECT Y 12 METRES T			TRANSECT Y 15 METRES T			TRANSECT Y 20 METRES T
	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)	AUG 23, 1978 1 SAMPLE(S)	OCT 18, 1978 1 SAMPLE(S)	MAY 12, 1978 1 SAMPLE(S)
BRACHIONUS ANGULARIS	0	0	0	0	0	0	0
KERATELLA COCHLEARIS	0	10583	92000	0	12300	98000	0
KERATELLA QUADRATA	0	300	0	0	0	1000	0
KERATELLA HIEMALIS	0	0	0	0	0	0	0
NOTHOLCA SQUAMULA	0	0	0	0	0	0	0
NOTHOLCA FOLIACEA	0	0	0	0	0	0	0
KELLICOTTIA LONGISPINA	0	0	2000	0	0	1000	0
TRICHOCERCA MULTICRINIS	0	0	6000	0	0	3000	0
TRICHOCERCA PORCELLUS	0	0	2000	0	0	4000	0
CHROMOGASTER OVALIS	0	0	0	0	0	1000	0
ASPLANCHNA SPP	0	0	0	0	0	0	0
POLYARTHRA SPP	0	17700	56000	0	11400	15000	0
SYNCHAETA SPP	2080	1800	22000	910	900	17000	650
PLOESOMA SPP	0	600	1000	0	0	1000	0
BIPALPUS HUDSONI	0	0	0	0	0	0	0
FILINIA TERMINALIS	0	300	0	0	300	0	0
CONOCHILUS UNICORNIS	0	600	0	0	6000	0	0
HOLOPEDIUM GIBBERUM	0	0	0	0	0	0	0
DAPHNIA GALEATA MENDOTAE	0	48	320	0	60	648	0
CERIODAPHNIA SPP	0	28	160	0	180	0	0
BOSMINA LONGIROSTRIS	13	540	2720	0	480	1440	0
EUBOSMINA COREGONI	0	0	300	0	60	1600	0
CHYDORUS SPP	0	20	0	0	0	0	0
POLYPHEMUS PEDICULUS	0	0	0	0	20	0	0
LIMNOCALANUS MACRURUS	0	0	0	0	0	0	0
SKISTODIAPTOMUS OREGONENSIS	0	20	320	0	0	0	0
DIAPTOMUS CREGONENSIS	0	0	0	0	0	0	13
DIAPTOMUS MINUTUS	0	0	0	0	0	0	0
DIAPTOMUS SICILIS	0	0	0	0	0	0	0
DIAPTOMUS ASHLANDI	0	0	0	0	0	0	0
DIAPTOMUS SICILOIDES	0	0	0	0	0	0	0
CALANOIDA NAUPLIAR STAGES	1438	0	4000	520	300	2000	6500
CALANOID COPEPODITE STAGES	52	0	0	13	0	320	52
TROPOCYCLOPS PRASINUS	0	0	2240	0	80	800	0
DIACYCLOPS BICUSPIDATUS THOMASI	0	48	4000	0	1420	6800	0
ACANTHOCYCLOPS VERNALIS	0	0	0	0	0	0	0
MESOCYCLOPS EDAX	0	0	0	0	0	160	0
CYCLOPOIDA NAUPLIAR STAGES	4680	1800	12000	910	300	10000	3910
CYCLOPOIDA COPEPODITE STAGES	0	0	0	0	0	0	0
TOTAL	8255	34283	207560	2353	33640	164840	10725

APPENDIX 3-11

ANALYSIS OF VARIANCE OF ZOOPLANKTON DOMINANT SPECIES DENSITIES ON FOUR SAMPLING DATES WESLEYVILLE GS A - 1978

ROTIFERS

Date	Dominant Species	Calculated F Statistic: Transect	Calculated F Statistic: Depth Contour
February 21	*Notholca squamula*	NS $1.00_{[3,6]}$	** $80.63_{[2,6]}$
May 12	*Synchaeta sp*	* $2.74_{[7,28]}$	** $13.80_{[4,28]}$
August 23	*Polyarthra sp*	** $5.45_{[7,28]}$	NS $0.48_{[4,28]}$
October 18	*Keratella cochlearis*	* $2.62_{[7,28]}$	** $11.71_{[4,28]}$

CRUSTACEAN ZOOPLANKTON

Date	Dominant Species	Calculated F Statistic: Transect	Calculated F Statistic: Depth Contour
February 21	*Cyclops b. thomasi*	NS $1.11_{[3,6]}$	NS $0.63_{[2,6]}$
May 12	*Calanoid copepodites*	NS $1.14_{[7,28]}$	** $6.32_{[4,28]}$
August 23	*Bosmina longirostris*	** $5.00_{[7,28]}$	NS $0.65_{[4,28]}$
October 18	*Bosmina longirostris*	NS $2.18_{[7,28]}$	* $5.64_{[4,28]}$

NS - Not significant

* - Significant at α .05

** - Significant at α .01

APPENDIX 3-12(a): ZOOBENTHOS (NUMBERS/METRE^2) - JUNE 13-20
WESLEYVILLE GS A - 1978

STNS

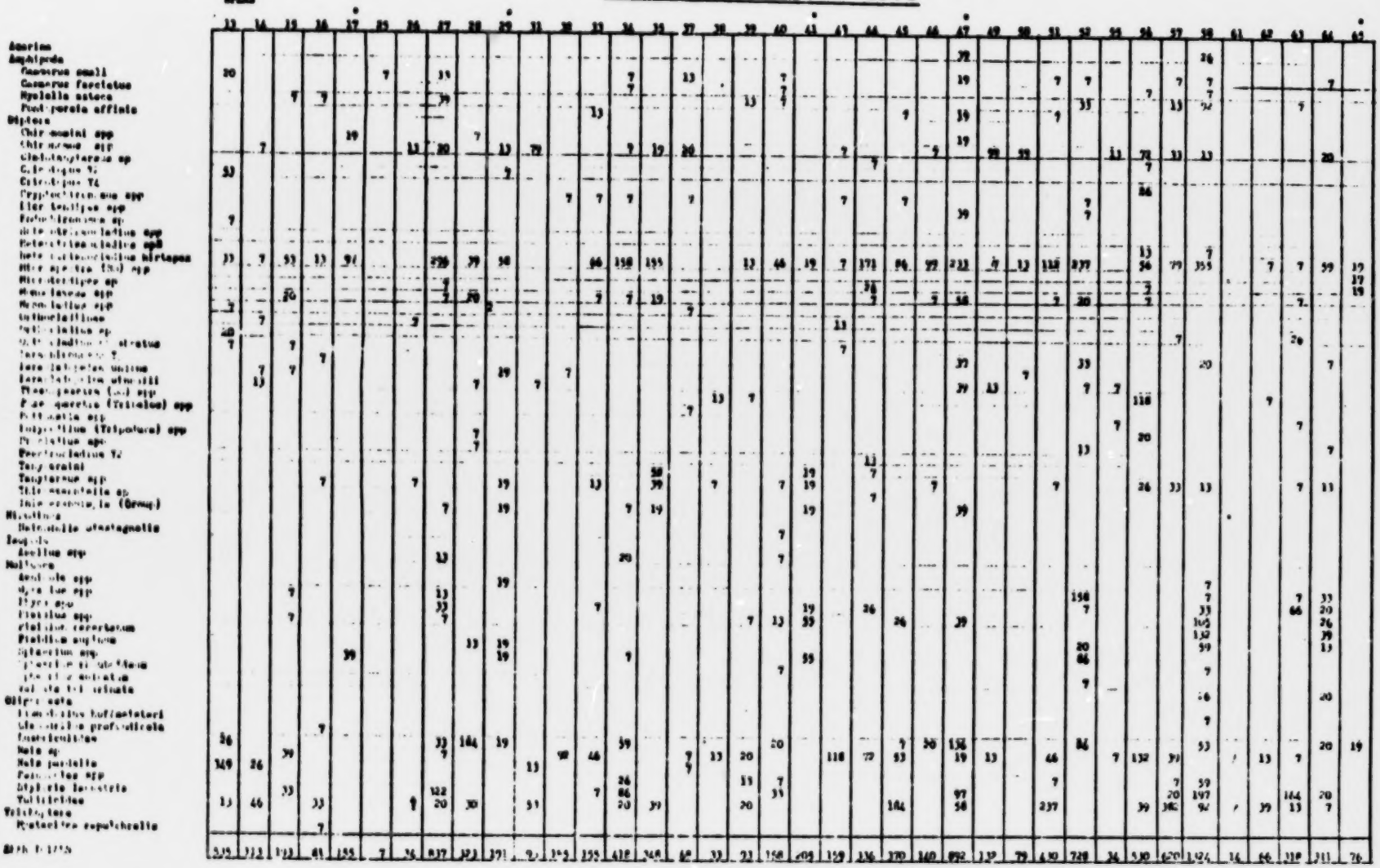
	13	14	15	16	17*	23	26	27	28	31	32	33	34	37	38	39	40	41*
Acarina			7	86	39		13	72						7		7	39	19
Amphipoda																		
Gammarus fasciatus			13					39				7			7	7		
Hyalella azteca			33	13				366					33					39
Pontoporeia affinis					19							39				71		
Decapoda																		
Cambarus robustus								7										
Orconectes propinquus								7										
Diptera																		
Ablabesmyia T2				26														
Chironomidae (adults)						7		7						7				
Chironomus spp		7	7			7		7		13	20							19
Cladotanytarsus sp		7		46			7	33										
Cricotopus T2																		
Cricotopus T5																		
Cryptochironomus spp		7						7				20			13	13		
Dicrotendipes spp				92				178					33			13		136
Heterotrissocladius spp			7					13				26						
Heterotrissocladius spB							7	13										
Heterotrissocladius hirtapex				7														19
Micropsectra Paratanytarsus sp			7					33										
Microtendipes sp			13	20				164				7	7					19
Monodiamesa spp												7		7	13	26		
Nanocladius sp								7										
Orthocladiinae														7				19
Orthocladius obumbratus		26		13		26	33				13	99		204	72	31		
Orthocladius dorenus																		
Parachironomus T1			7					151			7	7				26	7	19
Paracladopelma undine	92	145	7			39	72	20		79	92	99		20		51		
Paracladopelma winnelli												20		7				
Paralauterborniella spp															7			
Paratendipes spp																		
Phaenopsectra (tribelos) spp																		
Phaenopsectra (s.s.) spp	7	7				72	13	13				46		309	164	26		
Polypedilum fallax sp												26				39		19
Polypedilum tripodura spp	39	59				72	105			20	20	7		46	20			
Potthastia spp																		
Procladius spp				7														
Psectrocladius T1								7										
Psectrocladius T2								7				7					7	
Tanytarsus spp			7	7		26	13	20			7	20		46	7	[illegible]		
Thienemanniella (Group)			53	33			13	366			7	33	20	26	33	7	46	97
Hirudinea																		
Glossiphonia complanata																		
Helobdella stagnalis														7				
Isopoda																		
Asellus spp			13				7	224					20					19
Mollusca																		
Gyraulus spp				7				7										
Lymnaea spp																		
Physa spp								26										
Stagnicola spp								7										
Valvata spp																		
Pisidium spp				46									13			20	39	78
Pisidium casertanum								20									13	
Sphaerium spp				7														
Sphaerium rhomboideum																		
Oligochaeta																		
Lumbriculidae				86			7	112										291
Naididae								13										
Nais sp																13		
Stylaria lacustris				13				7										
Tubificidae				26			13					39		20	7	39		78
Limnodrilus hoffmeisteri								7						26	20			
Limnodrilus profundicola														7		13		
Ilyodrilus spp								13					13					
Trichoptera																		
Hydroptila spp			7					46										
STN TOTALS	13	258	181	535	58	[illegible]	[illegible]	2434	0	112	[illegible]	[illegible]	129	716	[illegible]	450	151	871

	43	44	45	46	47*	49	50	51	52	53*	55	56	57	58	59*	61	62	63	64
Acarina	20												13				7	7	
Amphipoda																			
Gammarus fasciatus		20	20					13				30	7				13	13	20
Hyalella azteca								7					7						
Pontoporeia affinis					19			99									7		
Decapoda																			
Cambarus robustus																			
Orconectes propinquus																			
Diptera																			
Ablabesmyia T2				7					13										
Chironomidae (adults)					19														
Chironomus spp																			7
Cladotanytarsus sp							7		7				20						13
Cricotopus T2	20	7																	
Cricotopus T5	7																		
Cryptochironomus spp													13					7	
Dicrotendipes spp		7							7					13					112
Heterotrissocladius spp																			
Heterotrissocladius spB		7						7						20			7		
Heterotrissocladius hirtapex																			7
Micropsectra Paratanytarsus sp																			
Microtendipes sp			13		19													7	26
Monodiamesa spp													7						
Nanocladius sp																			
Orthocladiinae	7	7	7			7								7				7	
Orthocladius obumbratus	73	355	39	7		33	33	66						26			26	20	13
Orthocladius dorenus		7																	
Parachironomus T1		13		7					7					7					26
Paracladopelma undine		7				66	99	39			7	39		7		26	7		
Paracladopelma winnelli				13	19														
Paralauterborniella spp																	7		
Paratendipes spp			20																
Phaenopsectra (tribelos) spp			26			33												7	
Phaenopsectra (s.s.) spp		26				7								13		20	118		7
Polypedilum fallax sp				7	19			7						20					7
Polypedilum tripodura spp							72									26	184		
Potthastia spp																			7
Procladius spp					39														
Psectrocladius T1		7							7										
Psectrocladius T2	7	13												7				7	
Tanytarsus spp	7	20		7		13								7	19		7		7
Thienemanniella (Group)		86	26	20		33		7	7			13	99	33			7	13	138
Hirudinea																			
Glossiphonia complanata													7						
Helobdella stagnalis																			
Isopoda																			
Asellus spp				7										7					37
Mollusca																			
Gyraulus spp								7	7										
Lymnaea spp																			7
Physa spp					19														
Stagnicola spp																			
Valvata spp									7										26
Pisidium spp					39														
Pisidium casertanum																		39	
Sphaerium spp																			
Sphaerium rhomboideum																			7
Oligochaeta																			
Lumbriculidae				20	233			7		19				66	19			26	20
Naididae																			
Nais sp					19										19		7		86
Stylaria lacustris																			
Tubificidae				7				26	26		7	7		13	58		7	7	
Limnodrilus hoffmeisteri	7				39												13		
Limnodrilus profundicola												7							
Ilyodrilus spp															19				7
Trichoptera																			
Hydroptila spp														13					13
STN TOTALS	147	589	151	102	463	132	231	235	88	19	14	96	173	259	[illegible]	72	417	160	[illegible]

* [illegible]

APPENDIX 3-12(a) Contd

ZOOBENTHOS (NUMBERS/METRE^2) - AUG 29-31
WESLEYVILLE GS A - 1978



APPENDIX 3-12(a) Contd

ZOOBENTHOS (NUMBERS/METRE^2) - OCT 2-23
WESLEYVILLE GS A - 1978

Spare

	13	14	15	16	17*	25	26	27	28	31	32	33	34
Acarina	13	13		7	39				79			7	13
Amphipoda													
Gammarus fasciatus	86	33											
Gammarus pseudolimnaeus													
Gammarus (Small)	230	99											
Hyalella azteca	7	7						7	191				33
Pontoporeia affinis			13										
Diptera													
Chironomus spp				7		13	33		13				
Cladotanytarsus sp	7				19								
Cricotopus T2	20	7											
Cricotopus T4	7												
Cryptochironomus spp									20				7
Dicrotendipes spp				112					263			7	66
Heterotrissocladius spp			7										
Heterotrissocladius spB					39				33			39	13
Heterotrissocladius hirtapex				7	153	7			20			7	26
Microtendipes sp	33								20				
Monodiamesa spp					19				7				7
Nanocladius sp													
Orthocladiinae	7												
Orthocladius obumbratus	20	33											
Parachironomus T1													
Paracladopelma undine			13		19					7	20		
Paracladopelma winnelli													
Phaenopsectra (33) spp									7				
Polypedilum (Tripodura) spp			33									13	
Potthastia spp				7									13
Procladius spp					19				86				20
Tanytarsus spp					39				33				
Thienemanniella (Group)	7	13			19				66				33
Hirudinea													
Helobdella stagnalis													
Isopoda													
Asellus spp									7				
Lepidoptera													
Mollusca													
Amnicola limosa													
Gyraulus spp		11							210				46
Lymnaea spp	7	7							13				13
Stagnicola spp									33				
Valvata sincera													
Valvata tricarinata				13					33				13
Pisidium spp				92					296			13	
Pisidium casertanum									178				
Pisidium nitidum													13
Pisidium supinum				86					224				65
Sphaerium rhomboideum									86				
Sphaerium sulcatum									13				
Oligochaeta													
Lumbriculidae					19				86			13	46
Tubificidae		33	26	7	97			7	145		13	99	86
Peloscolex spp				20					105			13	7
Naididae				7		7		13	145			13	39
Nais pardalis	217	46	20										
Stylaria lacustris				39					79			7	7
Trichoptera													
Hydroptilidae									145			7	13
Hydroptila spp									7				
Mystacides sepulchralis													
AREA TOTALS	661	324	112	397	663	27	53	22	[illegible]	7	33	[illegible]	[illegible]

	37	38	39	40	43	44	45	46	47*	49	50	51
Acarina		7		20		39	7	13				
Amphipoda												
Gammarus fasciatus												7
Gammarus pseudolimnaeus												
Gammarus (Small)						13						
Hyalella azteca												7
Pontoporeia affinis							39					13
Diptera												
Chironomus spp										7	33	7
Cladotanytarsus sp				7			20					26
Cricotopus T2												
Cricotopus T4												
Cryptochironomus spp				20			20	7		7	7	7
Dicrotendipes spp				39			7		58			7
Heterotrissocladius spp												
Heterotrissocladius spB				39	7	26	276	13			7	72
Heterotrissocladius hirtapex				39			7	7	39			
Microtendipes sp					7		7	7				
Monodiamesa spp				26		7	39	7				36
Nanocladius sp												
Orthocladiinae												
Orthocladius obumbratus												
Parachironomus T1												
Paracladopelma undine		7				7	7			7	13	7
Paracladopelma winnelli								7	19	7		
Phaenopsectra (33) spp									19			
Polypedilum (Tripodura) spp				7	7	7	335	7	39		7	46
Potthastia spp												
Procladius spp												
Tanytarsus spp				26								
Thienemanniella (Group)			7			7						13
Hirudinea												
Helobdella stagnalis												7
Isopoda												
Asellus spp												7
Lepidoptera						7						
Mollusca												
Amnicola limosa												
Gyraulus spp												
Lymnaea spp			13									13
Stagnicola spp												
Valvata sincera												
Valvata tricarinata												
Pisidium spp									78			13
Pisidium casertanum									116			7
Pisidium nitidum												
Pisidium supinum			7				7		252			13
Sphaerium rhomboideum												
Sphaerium sulcatum												
Oligochaeta												
Lumbriculidae				26					19			
Tubificidae			7	66		263	125		313		59	197
Peloscolex spp			26									
Naididae		20	13	13		13		7				
Nais pardalis		20				132						
Stylaria lacustris												
Trichoptera												
Hydroptilidae			13									
Hydroptila spp			7									
Mystacides sepulchralis												
AREA TOTALS	0	34	93	[illegible]	21	321	916	73	832	28	139	435

	52	53*	55	56	57	58	61	62	63	64
Acarina			7	26	66	13			13	184
Amphipoda										
Gammarus fasciatus					13		33	72	11	20
Gammarus pseudolimnaeus					39					
Gammarus (Small)				7	33		39	7		
Hyalella azteca					26	7			13	139
Pontoporeia affinis		39								
Diptera										
Chironomus spp			33	7						
Cladotanytarsus sp					86				33	138
Cricotopus T2										
Cricotopus T4										
Cryptochironomus spp		19			26				26	
Dicrotendipes spp					77	33	7	7		226
Heterotrissocladius spp										
Heterotrissocladius spB	7	39	7		33		33		46	46
Heterotrissocladius hirtapex		39			7					
Microtendipes sp				13	39	7	7		7	
Monodiamesa spp			20						20	
Nanocladius sp										
Orthocladiinae								7		
Orthocladius obumbratus								7	7	
Parachironomus T1					13					7
Paracladopelma undine		19	20					33		
Paracladopelma winnelli										
Phaenopsectra (33) spp									20	
Polypedilum (Tripodura) spp			105					7	26	
Potthastia spp										
Procladius spp					13					31
Tanytarsus spp		39			13	7				26
Thienemanniella (Group)				13	230	7			13	151
Hirudinea										
Helobdella stagnalis										7
Isopoda										
Asellus spp					53				13	
Lepidoptera										
Mollusca										
Amnicola limosa						7				
Gyraulus spp					46					20
Lymnaea spp					191	13				13
Stagnicola spp										
Valvata sincera										7
Valvata tricarinata					13	13				105
Pisidium spp						7				46
Pisidium casertanum		19								
Pisidium nitidum										
Pisidium supinum					7	7				33
Sphaerium rhomboideum										53
Sphaerium sulcatum										
Oligochaeta										
Lumbriculidae		97				7				13
Tubificidae		184	13	13	33	7		33	132	99
Peloscolex spp		19								13
Naididae				7					26	66
Nais pardalis				99				266	46	66
Stylaria lacustris	7							7	13	72
Trichoptera										
Hydroptilidae										
Hydroptila spp									33	210
Mystacides sepulchralis									80	
AREA TOTALS	34	503	225	185	1,311	162	112	474	564	3749

* Ponar Dredges - Balance are vacuum dredges.

APPENDIX 3-12(b)

Heterotrissocladius hirsutex
PERCENTAGE OF TOTAL NUMBERS COLLECTED

June — TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	21.2	0.0	0.0	0.0	0.0	0.0	0.0	21.2
H	15 m	0.0	-	-	57.6	0.0	0.0	0.0	-

August — TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	1.3	0.0	0.0	0.0	0.3	0.3	0.0	0.0
E	3 m	1.3	0.0	0.0	0.0	6.5	0.5	2.1	0.3
P	7 m	2.0	11.3	2.5	0.5	3.3	4.3	3.0	0.3
T	12 m	0.5	1.5	6.0	1.8	3.8	9.0	13.5	2.3
H	15 m	3.7	2.2	5.9	0.7	8.9	-	-	0.7

October — TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	2.6	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	0.0	2.6	0.0	2.6	0.0	2.6	0.0
T	12 m	2.6	7.9	10.5	15.8	2.6	0.0	0.0	18.4
H	15 m	21.1	-	-	-	5.3	5.3	-	-

APPENDIX 3-12(b) Contd

Orthocladius obumbratus
PERCENTAGE OF TOTAL NUMBERS COLLECTED

June — TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	2.1	0.0	16.2	6.3	2.6	0.0	0.0
E	3 m	2.1	4.2	1.0	5.7	28.3	4.2	0.0	2.1
P	7 m	0.0	0.0	7.9	2.6	3.1	5.3	0.0	1.6
T	12 m	1.0	0.0	0.0	0.0	0.6	0.0	2.1	1.0
H	15 m	0.0	-	-	0.0	0.0	0.0	0.0	-

August — TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	33.3	0.0	0.0	0.0	33.3	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	33.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	0.0	0.0	0.0	0.0	-	-	0.0

October — TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	37.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	62.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	-	-	0.0	0.0	-	-

APPENDIX 3-12(b) Contd

Dicrotendipes spp

PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	[illegible].0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	1.2	[illegible].0	0.0	0.0
P	7 m	0.0	30.1	0.0	2.2	0.0	[illegible].0	0.0	0.0
T	12 m	15.6	0.0	5.6	0.0	0.0	.2	2.2	19.0
H	15 m	0.0	-	-	23.0	0.0	[illegible].0	0.0	-

August

		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	[illegible].0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	[illegible].0	0.0	0.0
P	7 m	0.0	0.0	0.0	0.0	0.0	[illegible].0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	[illegible].2	0.0	0.0
H	15 m	0.0	-	0.0	0.0	84.8	-	-	0.0

October

		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	[illegible].0	0.0	0.8
E	3 m	0.0	0.0	0.0	0.0	0.0	[illegible].0	0.0	0.8
P	7 m	0.0	0.0	0.8	0.0	0.8	[illegible].8	8.4	0.0
T	12 m	13.0	30.5	7.6	4.6	0.0	[illegible].0	3.8	26.0
H	15 m	0.0	-	-	-	2.3	[illegible].0	-	-

APPENDIX 3-12(b) Contd

Thienemanniella (Group)
PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

DEPTH		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	3.1	0.0	2.2	0.0	0.0
E	3 m	0.0	0.9	0.5	0.9	5.8	0.0	0.9	0.5
P	7 m	3.6	38.1	2.2	5.1	1.8	0.5	6.7	0.9
T	12 m	2.2	0.0	1.4	3.1	1.4	0.5	2.2	9.3
H	15 m	0.0	-	-	6.5	0.0	0.0	0.0	-

August

DEPTH		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	17.3	17.3	17.3	35.5	-	-	0.0

October

DEPTH		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	1.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	2.3	0.0	0.0	0.0	1.2	0.0	2.3	0.0
P	7 m	0.0	0.0	0.0	1.2	0.0	2.3	40.7	2.3
T	12 m	0.0	11.6	5.8	0.0	0.0	0.0	1.2	26.7
H	15 m	1.2	-	-	-	0.0	0.0	-	-

APPENDIX 3-12(b) Contd

Parsaladopelma undine
PERCENTAGE OF TOTAL NUMBER COLLECTED

June

TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	9.1	3.8	7.8	2.0	0.0	6.5	0.7	2.6
E	3 m	14.3	7.1	9.1	0.0	0.7	9.8	3.8	0.7
P	7 m	0.7	2.0	9.8	5.2	0.0	3.8	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0
H	15 m	0.0	-	-	0.0	0.0	0.0	0.0	-

August

TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	14.9	0.0	14.9	0.0	0.0	14.9	0.0	0.0
P	7 m	14.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	40.4	0.0	0.0	0.0	-	-	0.0

October

TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	4.4	0.0	0.0	4.4	13.0	0.0
E	3 m	0.0	0.0	13.0	4.4	4.4	8.7	0.0	21.7
P	7 m	8.7	0.0	0.0	0.0	4.4	4.4	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	4.4	-	-	-	0.0	4.4	-	-

APPENDIX 3-12(b) Contd

Heterotrissocladius spp
PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

TRANSECTS

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	15.2	28.3	56.5	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	-	0.0	0.0	0.0	0.0	-

August

TRANSECTS

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	65.0	0.0
P	7 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	35.0	0.0
H	15 m	0.0	-	0.0	0.0	0.0	-	-	0.0

October

TRANSECTS

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	-	-	0.0	0.0	-	-

APPENDIX 3-12(b) Contd

Polypedilum (tripodura) spp
PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

DEPTH	TRANSECTS							
	M	O	P	Q	R	S	U	Y
1 m	5.8	10.8	3.0	6.9	0.0	0.0	0.0	3.9
3 m	8.8	15.7	3.0	3.0	0.0	10.8	0.0	27.5
7 m	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
15 m	0.0	-	-	0.0	0.0	0.0	0.0	-

August

DEPTH	TRANSECTS							
	M	O	P	Q	R	S	U	Y
1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3 m	0.0	0.0	0.0	0.0	0.0	0.0	74.1	0.0
7 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12 m	0.0	25.9	0.0	0.0	0.0	0.0	0.0	0.0
15 m	0.0	-	0.0	0.0	0.0	-	-	0.0

October

DEPTH	TRANSECTS							
	M	O	P	Q	R	S	U	Y
1 m	0.0	0.0	0.0	0.0	1.1	0.0	17.4	0.0
3 m	0.0	0.0	0.0	0.0	1.1	1.1	0.0	1.1
7 m	5.4	0.0	2.2	0.0	55.4	7.6	0.0	4.4
12 m	0.0	0.0	0.0	1.1	1.1	0.0	0.0	0.0
15 m	0.0	-	-	-	1.1	0.0	-	-

APPENDIX 3-12(b) Contd

Phaeocystis sp.
PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.8	8.5	0.0	36.4	0.0	0.8	0.0	2.3
E	3 m	0.8	1.5	0.0	19.3	3.1	0.0	0.0	13.9
P	7 m	0.0	1.5	5.4	3.1	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.8
H	15 m	0.0	-	-	0.0	0.0	0.0	0.0	-

August

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	9.4	0.0	0.0	85.5	3.1
P	7 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	0.0	0.0	0.0	-	-	0.0

October

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	60.0
T	12 m	0.0	20.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	-	-	20.0	0.0	-	-

APPENDIX 3-12(b) Contd

Hyalella azteca
PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	4.7	31.1	0.0	0.0	0.0	1.0	1.0	0.0
T	12 m	1.9	0.0	4.7	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	-	5.6	0.0	0.0	0.0	-

August

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	3.2	17.9	0.0	0.0	0.0	0.0	0.0	3.2
T	12 m	3.2	0.0	0.0	3.2	0.0	15.1	42.2	0.0
H	15 m	0.0	-	0.0	0.0	0.0	-	-	0.0

October

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	1.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	1.5	0.0	0.0	0.0	1.5	5.8	2.9
T	12 m	0.0	42.0	7.3	0.0	0.0	0.0	1.5	31.8
H	15 m	0.0	-	-	-	0.0	0.0	-	-

APPENDIX 3-12(b) Contd

Gammarus fasciatus

PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	45.1	0.0	0.0	0.0	0.0	0.0	0.0	9.7
E	3 m	20.4	0.0	0.0	0.0	1.8	0.0	0.9	10.6
P	7 m	0.0	0.0	0.0	0.0	0.0	0.9	6.2	1.8
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
H	15 m	0.0	-	-	0.0	0.0	0.0	0.0	-

August

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	13.4	4.7	0.0	8.7	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	4.7	0.0
P	7 m	0.0	8.7	0.0	0.0	0.0	4.7	4.7	0.0
T	12 m	0.0	0.0	9.4	9.4	0.0	4.7	9.4	4.7
H	15 m	0.0	-	0.0	0.0	12.5	-	-	0.0

October

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	45.1	0.0	0.0	0.0	0.0	0.0	0.0	9.7
E	3 m	20.4	0.0	0.0	0.0	1.8	0.0	0.9	10.6
P	7 m	0.0	0.0	0.0	0.0	0.0	0.9	6.2	1.8
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7
H	15 m	0.0	-	-	-	0.0	0.0	-	-

APPENDIX 3-12(b) Contd

Raise of
PERCENTAGE OF TOTAL NUMBERS CORRECTED

June

TRANSECTS

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.9
P	7 m	0.0	0.0	0.0	9.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	59.7
H	15 m	0.0	-	-	0.0	13.2	0.0	13.2	-

August

TRANSECT

		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.9	15.7	1.7	0.9	0.9
E	3 m	0.0	0.0	12.3	1.7	9.6	0.0	17.6	1.7
P	7 m	5.2	0.9	6.1	2.7	7.1	6.1	5.2	0.9
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	0.0	0.0	2.5	-	-	0.0

APPENDIX 3-12(b) Contd

Note parallel

PERCENTAGE OF TOTAL NUMBERS COLLECTED

August

		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	88.4	0.0	3.3	1.8	0.0	0.0	0.0	0.0
E	3 m	6.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	0.0	0.0	0.0	-	-	0.0

October

		TRANSECT							
		M	O	P	Q	R	S	U	Y
D	1 m	19.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	4.1	0.0	0.0	1.8	11.8	0.0	8.8	26.5
P	7 m	1.8	0.0	0.0	0.0	0.0	0.0	19.4	4.1
T	12 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.4
H	15 m	0.0	-	-	-	0.0	0.0	-	-

APPENDIX 3-12(b) Contd

Stylaria lacustris

PERCENTAGE OF TOTAL NUMBERS COLLECTED

June

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	0.0	35.0	0.0	0.0	0.0	0.0	0.0	0.0
T	12 m	65.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H	15 m	0.0	-	-	0.0	0.0	0.0	0.0	-

August

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
P	7 m	3.4	32.9	0.7	0.0	0.0	0.0	2.0	10.8
T	12 m	0.0	0.0	8.8	3.4	0.0	0.0	20.1	2.0
H	15 m	0.0	-	0.0	0.0	9.9	-	-	0.0

October

		TRANSECTS							
		M	O	P	Q	R	S	U	Y
D	1 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E	3 m	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5
P	7 m	0.0	0.0	1.5	0.0	0.0	0.0	47.0	3.0
T	12 m	9.1	18.2	1.5	0.0	0.0	1.5	0.0	16.7
H	15 m	0.0	-	-	-	0.0	0.0	-	-

APPENDIX 3-13

ATTACHED ALGAE PERCENT COMPOSITION AND BIOMASS
JUNE 14
WESLEYVILLE GS A - 1978

	K		M		O		P		Q		R		S		Y	
	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m
ATTACHED ALGAE - %																
Lyngbya																
Oscillatoria																
Cladophora spp.																
Cladophora glomerata				99		5.0				50					1.0	100
Microspora																
Mougeotia																
Oedogonium																
Spirogyra																
Stigeoclonium																
Ulothrix spp.	100		100	1.0		95	100		100	50	100	100	100		99	
Ulothrix zonata																
Lungia autopurpurea																
Asterocystis																
EPIPHYTES - %																
Chamaesiphon																
Lyngbya																
Cymbella																
Gophonema																
Rhoicosphena curvata				40		50										50
Cocconeis				60		50										50
Temperature °C	8.0						8.0				8.2		8.6		9.0	
Dry Weight - g/m^2	162.8		208.6	111.8		263.7	99.9		249.3	15.7	153.7	40.3	136.2		145.4	129.3
Ash-Free Dry Weight - g/m^2	137.9		174.6	104.7		250.6	73.7		216	13.1	113	33.1	100.6		124.3	82.8

S = Shoreline

APPENDIX 3-13 (Cont'd)

ATTACHED ALGAE PERCENT COMPOSITION AND BIOMASS
AUGUST 2
WESLEYVILLE GS A - 1978

	K		M		O		P		Q		R		S		Y	
	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m
ATTACHED ALGAE - %																
Lyngbya																
Oscillatoria																
Cladophora spp.																
Cladophora glomerata		98	50	99		100	50		10	100		99	1.0			99
Microspora																
Mougeotia																
Oedogonium		1.0														
Spirogyra																1.0
Stilococcium																
Ulothrix spp.		1.0	5	1.0			50		90		100	1.0	99		100	
Ulothrix zonata																
Rangia antoparpurea																
Anterocystis																
EPIPHYTES - %																
Chamaesiphon												10				
Lyngbya																
Cymbella												10				
Gophonema																
Rhoicosphena curvata		10		15						10		10				5
Cocconeis		90	100	85		70	100			90		70				95
Temperature °C		20.4	20.4	20.4		20.4	20.4		20.4	20.4		20.4	20.4		20.4	20.4
Dry Weight - g/m^2		38.3	309.9	426.9		781.6	83.5		424.6	86.9	433.4	121.8	321.3			357
Ash-Free Dry Weight - g/m^2		2.7	132	85.2		23.3	22		29.9	15.3	42.3	85.2	49.9			26

S - Shoreline

APPENDIX 3-13 (Cont'd)

ATTACHED ALGAE PERCENT COMPOSITION AND BIOMASS
OCTOBER 2
WESLEYVILLE GS A 1978

	K		M		O		P		Q		R		S		V	
	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m	S	3 m
ATTACHED ALGAE - %																
Lyngbya																
Oscillatoria																
Cladophora spp.																
Cladophora glomerata		100		100						100		100		40		
Microspora																
Rhoicosphenia																
Oscillatoria														30		
Spirogyra														10		
Stigeoclonium																
Blothrix spp.																
Blothrix zonata																
Bangia atropurpurea																
Actinogatia														20		
DIATOMS - %																
Gomphonema																
Synedra																
Cymbella										90				10		
Cyclotella																
Rhoicosphenia curvata		87		55						5		65		30		
Navicula		13		45						5		35		60		
% Epiphytic Cover		67		30						80		20		10		
Temperature °C		14.5		14.5						14.5		14.5		14.5		
Dry weight - g/m²		1272.7		82.2						79.2		206.1		58.7		
Ash-free dry weight - g/m²		253.6		26.1						9.3		99		1.4		

S - Shoreline

APPENDIX 3-14

t-STATISTIC EVALUATION
A COMPARISON OF SHORELINE AND 3 METRE ATTACHED ALGAL BIOMASS (ASH WEIGHT, g/m^2)
WESLEYVILLE GS A - 1978

	June 13	August 3	October 2-19
df	10	10	7
t	0.917	-0.917	0.725
t α .05	2.228	2.228	2.365
Remarks	Not sig	Not sig	Not sig

APPENDIX 3-15

THE ABUNDANCE AND DISTRIBUTION OF ADULT AND JUVENILE FISH COLLECTED FROM MAY TO DECEMBER USING GILL NETS WESLEYVILLE GS A - 1978

FISH SPECIES	TRANSECT R 15 METRES B MAY 19 1978 8 NETS SET* AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 15 METRES B MAY 19 1978 8 NETS SET AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 15 METRES B MAY 19 1978 8 NETS SET AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 15 METRES B MAY 24 1978 8 NETS SET AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	1.375	25.0	1.750	45.2	.125	5.0	.500	25.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.125	2.3	.125	3.2	.000	.0	.125	6.3
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	4.000	72.7	1.875	48.4	2.375	95.0	1.375	68.8
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.125	3.2	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	5.500	100.0	3.875	100.0	2.500	100.0	2.000	100.0

*Read as average number per gill net panel (8 panels/experimental net, with one net set per location) ie total number of fish in net = 44, including 1 round whitefish.

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT Q 15 METRES B MAY 24 1978 8 NETS SET		TRANSECT M 03 METRES B MAY 25 1978 8 NETS SET		TRANSECT M 12 METRES B MAY 25 1978 8 NETS SET		TRANSECT M 12 METRES T MAY 25 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	6.750	84.4	2.625	46.7	.000	.0	.500	80.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.250	3.1	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.875	10.9	1.500	26.7	.250	50.0	.125	20.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.125	25.0	.000	.0
WHITE PERCH	.125	1.6	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	1.500	26.7	.125	25.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	8.000	100.0	5.625	100.0	.500	100.0	.625	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT M 15 METRES B MAY 25 1978 8 NETS SET		TRANSECT M 15 METRES T MAY 25 1978 8 NETS SET		TRANSECT K 03 METRES B MAY 26 1978 8 NETS SET		TRANSECT K 12 METRES B MAY 26 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	1.875	71.4	.750	85.7	1.750	43.8	.750	66.7
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.125	3.1	.000	.0
SALMON, COHO	.125	4.8	.000	.0	.000	.0	.000	.0
SMELT	.625	23.8	.125	14.3	1.625	40.6	.375	33.3
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.500	12.5	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	2.625	100.0	.875	100.0	4.000	100.0	1.125	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 12 METRES T MAY 26 1978 8 NETS SET		TRANSECT K 15 METRES B MAY 26 1978 8 NETS SET		TRANSECT K 15 METRES T MAY 26 1978 8 NETS SET		TRANSECT O 15 METRES B JUN 01 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.875	87.5	250	13.3	.250	50.0	1.125	50.0
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	125	6.7	.125	25.0	.000	.0
SMELT	.125	12.5	1.500	80.0	.125	25.0	1.000	44.4
SPLAKE	.000	.0	000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	1.875	100.0	.500	100.0	2.250	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT Q 15 METRES B JUN 01 1978 8 NETS SET		TRANSECT R 15 METRES B JUN 01 1978 8 NETS SET		TRANSECT S 15 METRES B JUN 01 1978 8 NETS SET		TRANSECT Y 15 METRES B JUN 01 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	2.750	50.0	750	42.9	1.375	33.3	6.500	60.5
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.125	7.1	.125	3.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	2.625	47.7	.875	50.0	2.625	63.6	4.250	39.5
SPLAKE	.125	2.3	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	5.500	100.0	1.750	100.0	4.125	100.0	10.750	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 03 METRES B JUN 02 1978 8 NETS SET		TRANSECT K 12 METRES B JUN 02 1978 8 NETS SET		TRANSECT K 12 METRES T JUN 02 1978 8 NETS SET		TRANSECT K 15 METRES B JUN 02 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	2.125	68.0	.500	40.0	9.125	88.0	.875	25.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	1.000	32.0	.750	60.0	1.250	12.0	2.625	75.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	3.125	100.0	1.250	100.0	10.375	100.0	3.500	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 15 METRES T JUN 02 1978 8 NETS SET		TRANSECT M 03 METRES B JUN 01 1978 8 NETS SET		TRANSECT M 12 METRES B JUN 06 1978 8 NETS SET		TRANSECT M 12 METRES T JUN 06 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	4.750	76.0	.250	20.0	1.000	61.5	.125	7.7
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	1.500	24.0	.625	50.0	.625	38.5	1.500	92.3
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.375	30.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	6.250	100.0	1.250	100.0	1.625	100.0	1.625	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT M 15 METRES B JUN 06 1978 8 NETS SET		TRANSECT M 15 METRES T JUN 06 1978 8 NETS SET		TRANSECT O 15 METRES B JUL 12 1978 8 NETS SET		TRANSECT Q 15 METRES B JUL 12 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	1.750	58.3	.125	8.3	2.125	85.0	.750	54.5
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.125	4.2	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	1.125	37.5	1.375	91.7	.375	15.0	.625	45.5
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	3.000	100.0	1.500	100.0	2.500	100.0	1.375	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT R 15 METRES B JUL 12 1978 8 NETS SET		TRANSECT S 15 METRES B JUL 12 1978 8 NETS SET		TRANSECT Y 15 METRES B JUL 12 1978 8 NETS SET		TRANSECT M 03 METRES B JUL 13 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	4.250	63.0	2.875	41.1	.125	25.0	.000	.0
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	2.500	37.0	4.125	58.9	.375	75.0	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.125	100.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	6.750	100.0	7.000	100.0	.500	100.0	.125	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT M 12 METRES B JUL 13 1978 8 NETS SET		TRANSECT M 12 METRES T JUL 13 1978 8 NETS SET		TRANSECT M 15 METRES B JUL 13 1978 8 NETS SET		TRANSECT M 15 METRES T JUL 13 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.375	100.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.375	100.0	.000	.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 03 METRES B JUL 14 1978 8 NETS SET		TRANSECT K 12 METRES B JUL 14 1978 8 NETS SET		TRANSECT K 12 METRES T JUL 14 1978 8 NETS SET		TRANSECT K 15 METRES B JUL 14 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.250	66.7	1.375	84.6	13.875	91.7	2.125	48.6
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.250	15.4	1.125	7.4	2.125	48.6
SPLAKE	.000	.0	.000	.0	.125	.8	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.125	2.9
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.125	33.3	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.375	100.0	1.625	100.0	15.125	100.0	4.375	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 15 METRES T JUL 14 1978 8 NETS SET		TRANSECT M 03 METRES B AUG 15 1978 8 NETS SET		TRANSECT M 12 METRES B AUG 15 1978 8 NETS SET		TRANSECT M 12 METRES T AUG 15 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	11.750	91.3	33.875	95.8	14.750	81.4	6.500	96.3
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.250	3.7
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.125	.7	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	1.125	8.7	.000	.0	3.250	17.9	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.125	.4	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	1.250	3.5	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.125	.4	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	12.875	100.0	35.375	100.0	18.125	100.0	6.750	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT M 15 METRES B AUG 15 1978 8 NETS SET		TRANSECT M 15 METRES T AUG 15 1978 8 NETS SET		TRANSECT K 03 METRES B AUG 16 1978 8 NETS SET		TRANSECT K 12 METRES B AUG 18 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	4.375	60.3	14.875	100.0	14.000	98.2	9.000	84.7
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.125	1.7	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	2.750	37.9	.000	.0	.000	.0	1.500	14.1
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.250	1.8	.125	1.2
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	7.250	100.0	14.875	100.0	14.250	100.0	10.625	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 12 METRES T AUG 16 1978 8 NETS SET		TRANSECT K 15 METRES B AUG 16 1978 8 NETS SET		TRANSECT K 15 METRES T AUG 16 1978 8 NETS SET		TRANSECT O 15 METRES B AUG 17 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	2.000	100.0	28.625	71.8	3.625	93.5	.500	40.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.250	20.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.125	.3	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.125	.3	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	11.000	27.6	.250	6.5	.500	40.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	2.000	100.0	39.875	100.0	3.875	100.0	1.250	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT Q 15 METRES B AUG 17 1978 8 NETS SET		TRANSECT R 15 METRES B AUG 17 1978 8 NETS SET		TRANSECT S 15 METRES B AUG 17 1978 8 NETS SET		TRANSECT Y 15 METRES B AUG 17 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	3.375	65.9	1.125	69.2	1.750	60.9	4.875	73.6
BROWN BULLHEAD	.250	4.9	.250	15.4	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.375	7.3	.250	15.4	.750	26.1	1.625	24.5
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.375	13.0	.125	1.9
YELLOW PERCH	1.125	22.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	5.125	100.0	1.625	100.0	2.875	100.0	6.625	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT O 15 METRES B SEP 12 1978 8 NETS SET		TRANSECT Q 15 METRES B SEP 12 1978 8 NETS SET		TRANSECT R 15 METRES B SEP 12 1978 8 NETS SET		TRANSECT S 15 METRES B SEP 12 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	9.500	88.4	7.625	93.8	14.625	92.1	10.375	92.2
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.125	.8	.000	.0
SMELT	.125	1.2	.000	.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.250	2.2
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.125	1.2	.000	.0	.000	.0	.000	.0
WHITE SUCKER	1.000	9.3	.500	6.2	1.125	7.1	.625	5.6
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	10.750	100.0	8.125	100.0	15.875	100.0	11.250	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT Y 15 METRES B SEP 12 1978 8 NETS SET		TRANSECT M 03 METRES B SEP 13 1978 8 NETS SET		TRANSECT M 12 METRES B SEP 13 1978 8 NETS SET		TRANSECT M 12 METRES T SEP 13 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	7.625	89.7	.625	50.0	.500	57.1	.125	100.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.125	1.5	.000	.0	.125	14.3	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.750	8.8	.125	10.0	.250	28.6	.000	.0
YELLOW PERCH	.000	.0	.375	30.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.125	10.0	.000	.0	.000	.0
TOTALS	8.500	100.0	1.250	100.0	.875	100.0	.125	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT M 15 METRES B SEP 13 1978 8 NETS SET		TRANSECT M 15 METRES T SEP 15 1978 8 NETS SET		TRANSECT K 03 METRES B SEP 20 1978 8 NETS SET		TRANSECT K 12 METRES B SEP 20 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.375	50.0	5.625	100.0	5.000	72.7	.500	44.4
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.125	1.8	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.125	16.7	.000	.0	1.250	18.2	.250	22.2
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.125	16.7	.000	.0	.125	1.8	.250	22.2
WHITE SUCKER	.125	16.7	.000	.0	.125	1.8	.250	22.2
YELLOW PERCH	.000	.0	.000	.0	.250	3.6	.125	11.1
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.750	100.0	5.625	100.0	6.875	100.0	1.125	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 12 METRES T SEP 20 1978 8 NETS SET		TRANSECT K 15 METRES B SEP 20 1978 8 NETS SET		TRANSECT K 15 METRES T SEP 20 1978 8 NETS SET		TRANSECT O 15 METRES B OCT 11 1978 1 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.500	100.0	.500	80.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	1.000	100.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.125	20.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.500	100.0	.625	100.0	.000	.0	1.000	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 03 METRES B OCT 13 1978 8 NETS SET		TRANSECT K 12 METRES B OCT 13 1978 8 NETS SET		TRANSECT K 12 METRES T OCT 13 1978 8 NETS SET		TRANSECT K 15 METRES B OCT 13 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	4.500	76.6	6.500	91.2	14.125	95.0	23.250	93.5
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.375	6.4	.000	.0	.250	1.7	.250	1.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.750	12.8	.625	8.8	.500	3.4	.625	2.5
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.750	3.0
YELLOW PERCH	.250	4.3	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	5.875	100.0	7.125	100.0	14.875	100.0	24.875	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 15 METRES T OCT 13 1978 8 NETS SET		TRANSECT M 03 METRES B OCT 17 1978 8 NETS SET		TRANSECT M 12 METRES B OCT 17 1978 8 NETS SET		TRANSECT M 12 METRES T OCT 17 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	24.250	98.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.125	50.0	.000	.0
SMELT	.500	2.0	.000	.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.125	100.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.125	50.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	24.750	100.0	.125	100.0	.250	100.0	.000	.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT M 15 METRES B OCT 17 1978 8 NETS SET		TRANSECT M 15 METRES T OCT 17 1978 8 NETS SET		TRANSECT O 15 METRES B OCT 18 1978 7 NETS SET		TRANSECT O 15 METRES B OCT 18 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.143	100.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.125	100.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.125	100.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.125	100.0	.143	100.0	.125	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT R 15 METRES B OCT 18 1978 8 NETS SET		TRANSECT S 15 METRES B OCT 18 1978 8 NETS SET		TRANSECT Y 15 METRES B OCT 18 1978 8 NETS SET		TRANSECT M 03 METRES B NOV 03 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.125	33.3	.125	33.3
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.125	33.3	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.125	25.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.125	25.0	.000	.0	.000	.0
SMELT	.875	77.8	.000	.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.125	25.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.125	33.3
WHITE SUCKER	.250	22.2	.125	25.0	.125	33.3	.125	33.3
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	1.125	100.0	.500	100.0	.375	100.0	.375	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT M 12 METRES B NOV 03 1978 8 NETS SET		TRANSECT M 12 METRES T NOV 03 1978 8 NETS SET		TRANSECT M 15 METRES B NOV 03 1978 8 NETS SET		TRANSECT M 15 METRES T NOV 03 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.125	16.7	.000	.0
LAKE TROUT	.000	.0	.000	.0	.125	16.7	.000	.0
LONGNOSE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.125	16.7	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.125	100.0	.000	.0	.375	50.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.125	100.0	.000	.0	.750	100.0	.000	.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 03 METRES B NOV 07 1978 8 NETS SET		TRANSECT K 12 METRES B NOV 07 1978 8 NETS SET		TRANSECT K 12 METRES T NOV 07 1978 8 NETS SET		TRANSECT K 15 METRES B NOV 07 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.125	25.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.250	66.7	.000	.0	.000	.0	.000	.0
SALMON, COHO	.125	33.3	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.250	33.3
SPLAKE	.000	.0	.250	50.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.125	25.0	.000	.0	.500	66.7
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.375	100.0	.500	100.0	.000	.0	.750	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT K 15 METRES T NOV 07 1978 8 NETS SET		TRANSECT O 5 METRES B NOV 08 1978 8 NETS SET		TRANSECT Q 15 METRES B NOV 08 1978 8 NETS SET		TRANSECT R 15 METRES B NOV 08 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.125	50.0	.125	20.0	.125	25.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.125	50.0	.500	80.0	.375	75.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.250	100.0	.625	100.0	.500	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT S 15 METRES B NOV 08 1978 8 NETS SET		TRANSECT Y 15 METRES B NOV 03 1978 8 NETS SET		TRANSECT O 15 METRES B DEC 07 1978 8 NETS SET		TRANSECT O 15 METRES B DEC 07 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.125	100.0	.000	.0	.000	.0	.125	20.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.125	16.7	.000	.0
SPLAKE	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.125	20.0
WHITE SUCKER	.000	.0	.125	100.0	.625	83.3	.375	60.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.125	100.0	.125	100.0	.750	100.0	.625	100.0

APPENDIX 3-15 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978
GILL NETS ALL MESH SIZES

FISH SPECIES	TRANSECT R 15 METRES B DEC 07 1978 8 NETS SET		TRANSECT S 15 METRES B DEC 07 1978 8 NETS SET		TRANSECT Y 15 METRES B DEC 07 1978 8 NETS SET	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0
BROWN TROUT	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0
LAKE TROUT	.000	.0	.000	.0	.000	.0
LONGNOSE SUCKER	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0
ROUND WHITEFISH	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0
SPLAKE	.000	.0	.000	.0	.125	33.3
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.625	100.0	.250	66.7
YELLOW PERCH	.000	.0	.000	.0	.000	.0
YELLOW PICKEREL(WALLEYE)	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.625	100.0	.375	100.0

APPENDIX 3-16

THE ABUNDANCE AND DISTRIBUTION OF ADULT AND JUVENILE FISH COLLECTED FROM MAY TO DECEMBER USING TRAP NETS WESLEYVILLE GS A - 1978

	TRANSECT S 00 METRES MAY 11 1978 TRAP NET 1.2 M a*		TRANSECT S 00 METRES MAY 11 1978 TRAP NET 1.2 M b		TRANSECT Y 00 METRES MAY 11 1978 TRAP NET 1.2 M		TRANSECT Y 00 METRES MAY 11 1978 TRAP NET 1.2 M	
FISH SPECIES	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	1.000	20.0	.000	.0	.000	.0	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	1.000	14.3
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	6.000	42.9	.000	.0	1.000	14.3
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	3.000	60.0	8.000	57.1	.000	.0	5.000	71.4
YELLOW PERCH	1.000	20.0	.000	.0	1.000	100.0	.000	.0
TOTALS	5.000	100.0	14.000	100.0	1.000	100.0	7.000	100.0

*Read as number of fish caught in one net set over 24 hrs (not average).

On each transect there were two nets set close together in 2-3 m depths with leads approximately perpendicular to shore (a and b). The nets were fished on two consecutive nights, giving 4 replicate catches/month on each transect.

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES MAY 12 1978. TRAP NET 1.2 M		TRANSECT S 00 METRES MAY 12 1978 TRAP NET 1.2 M		TRANSECT Y 00 METRES MAY 12 1978 TRAP NET 1.2 M		TRANSECT Y 00 METRES MAY 12 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	3.000	100.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	1.000	100.0
WHITE SUCKER	.000	.0	2.000	100.0	1.000	100.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	3.000	100.0	2.000	100.0	1.000	100.0	1.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES MAY 17 1978 TRAP NET 1.2 M		TRANSECT K 00 METRES MAY 17 1978 TRAP NET 1.2 M		TRANSECT M 00 METRES MAY 17 1978 TRAP NET 1.2 M		TRANSECT M 00 METRES MAY 17 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	2.000	8.7	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	1.000	4.3	1.000	20.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	2.000	100.0	.000	.0	1.000	4.3	.000	.0
YELLOW PERCH	.000	.0	.000	.0	19.000	82.6	4.000	80.0
					.000	.0	.000	.0
TOTALS	2.000	100.0	.000	.0	23.000	100.0	5.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES MAY 17 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES MAY 17 1978 TRAP NET 1.2 M		TRANSECT Q 00 METRES MAY 17 1978 TRAP NET 1.2 M		TRANSECT Q 00 METRES MAY 17 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	1.000	10.0	3.000	42.9	2.000	2.8	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	2.000	20.0	1.000	14.3	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	1.000	20.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	7.000	70.0	3.000	42.9	70.000	97.2	4.000	80.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	10.000	100.0	7.000	100.0	72.000	100.0	5.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES MAY 18 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT K 00 METRES MAY 18 1978 TRAP NET 1.2 M AVERAGE # CF FISH CAUGHT	% COM-POSITION	TRANSECT M 00 METRES MAY 18 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT M 00 METRES MAY 18 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	2.000	100.0	.000	.0	14.000	87.5	9.000	64.3
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	1.000	7.1
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	1.000	7.1
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	2.000	100.0	2.000	12.5	3.000	21.4
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0						
TOTALS	2.000	100.0	2.000	100.0	16.000	100.0	14.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES MAY 18 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES MAY 18 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES MAY 18 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES MAY 18 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	21.000	63.6	2.000	66.7	1.000	11.1	10.000	40.0
BROWN BULLHEAD	1.000	3.0	1.000	33.3	.000	.0	7.000	28.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	3.000	9.1	.000	.0	2.000	22.2	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	1.000	4.0
WHITE SUCKER	8.000	24.2	.000	.0	6.000	66.7	7.000	28.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	33.000	100.0	3.000	100.0	9.000	100.0	25.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES JUN 01 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUN 01 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUN 01 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUN 01 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	7.000	19.4	.000	.0	.000	.0
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	1.000	2.8	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	1.000	100.0	4.000	11.1	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	24.000	66.7	2.000	100.0	2.000	100.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	36.000	100.0	2.000	100.0	2.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES JUN 01 1978 TRAP NET 1.2 M		TRANSECT S 30 METRES JUN 01 1978 TRAP NET 1.2 M		TRANSECT Y 00 METRES JUN 01 1978 TRAP NET 1.2 M		TRANSECT Y 00 METRES JUN 01 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	1.000	11.1	.000	.0	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	1.000	50.0	1.000	12.5
WHITE BASS	.000	.0	.000	.0	1.000	50.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	2.000	100.0	8.000	88.9	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	6.000	75.0
							1.000	12.5
TOTALS	2.000	100.0	9.000	100.0	2.000	100.0	8.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	2.000	100.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	3.000	100.0	2.000	100.0	1.000	100.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	3.000	100.0	2.000	100.0	1.000	100.0	2.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUN 02 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	2.000	50.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	1.000	11.1	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	2.000	22.2	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	1.000	25.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	1.000	25.0	6.000	66.7	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	4.000	100.0	9.000	100.0	.000	.0	.000	.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0.00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	1.000	50.0	3.000	25.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	1.000	12.5	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	1.000	8.3	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	1.000	12.5	.000	.0
WHITE PERCH	.000	.0	1.000	8.3	.000	.0	.000	.0
WHITE SUCKER	1.000	50.0	7.000	58.3	6.000	75.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	2.000	100.0	12.000	100.0	8.000	100.0	.000	.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 11 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	1.000	100.0	1 000	3.4	.000	.0	3.000	11.1
BROWN BULLHEAD	.000	.0	4 000	13.8	2.000	22.2	8.000	29.6
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	3.000	11.1
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	2.000	6.9	.000	.0	2.000	7.4
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	1.000	3.7
WHITE SUCKER	.000	.0	22.000	75.9	7.000	77.8	10.000	37.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	29.000	100.0	9.000	100.0	27.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES JUL 12 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES JUL 12 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES JUL 12 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES JUL 12 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	1.000	10.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	1.000	10.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	2.000	20.0	1.000	50.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	6.000	60.0	1.000	50.0	1.000	100.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	10.000	100.0	2.000	100.0	1.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES JUL 12 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES JUL 12 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 12 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 12 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	000	.0	.000	.0	1.000	7.1
BROWN BULLHEAD	1.000	8.3	.000	.0	3.000	25.0	4.000	28.6
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	1.000	7.1
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	1.000	8.3	000	.0	.000	.0	2.000	14.3
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	1.000	8.3	000	.0	.000	.0	.000	.0
WHITE SUCKER	9.000	75.0	000	.0	9.000	75.0	6.000	42.9
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	12.000	100.0	000	.0	12.000	100.0	14.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	4.000	100.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	3.000	100.0
WHITE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	.000	.0	4.000	100.0	.000	.0	3.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES AUG 15 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	2.000	100.0	5.000	26.3	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	6.000	31.6	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	8.000	42.1	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	2.000	100.0	19.000	100.0	.000	.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES AUG 16 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES AUG 16 1978 TRAP NET 1 2 M AVERAGE # OF FISH CAUGH"	% COM-POSITION	TRANSECT 0 00 METRES AUG 16 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Q 00 METRES AUG 16 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	6.000	46.2	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	6.000	46.2	.000	.0	6.000	66.7	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	1.000	7.7	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	1.000	11.1	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	1.000	11.1	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	1.000	11.1	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	13.000	100.0	.000	.0	9.000	100.0	.000	.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES AUG 16 1978 TRAP NET 1.2 M		TRANSECT S 30 METRES AUG 16 1978 TRAP NET 1.2 M		TRANSECT Y 00 METRES AUG 16 1978 TRAP NET 1.2 M		TRANSECT Y 00 METRES AUG 16 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	12.000	100.0	.000	.0	1.000	14.3	1.000	50.0
BROWN BULLHEAD	.000	.0	2.000	50.0	2.000	28.6	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	1.000	14.3	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	1.000	50.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	2.000	50.0	3.000	42.9	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	12.000	100.0	4.000	100.0	7.000	100.0	2.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0.00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	1.000	100.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	1.000	20.0	1.000	25.0	2.000	12.5
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	1.000	6.3
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	1.000	20.0	1.000	25.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	1.000	6.3
WHITE SUCKER	.000	.0	3.000	60.0	.000	.0	1.000	6.3
YELLOW PERCH	.000	.0	.000	.0	2.000	50.0	11.000	68.8
TOTALS	1.000	100.0	5.000	100.0	4.000	100.0	16.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES SEP 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	25.000	83.3	000	.0	.000	.0	.000	.0
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	1.000	3.3	000	.0	.000	.0	.000	.0
ROCK BASS	1.000	3.3	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	3.000	10.0	000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	30.000	100.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0.00 METRES SEP 21 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES SEP 21 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES SEP 21 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES SEP 21 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	1.000	100.0	.000	.0	.000	.0
BROWN BULLHEAD	3.000	100.0	.000	.0	1.000	33.3	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	2.000	66.7
YELLOW PERCH	.000	.0	.000	.0	2.000	66.7	1.000	33.3
TOTALS	3.000	100.0	1.000	100.0	3.000	100.0	3.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Y 00 METRES SEP 21 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES SEP 21 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES SEP 22 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES SEP 22 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	1.000	33.3	.000	.0
YELLOW PERCH	.000	.0	.000	.0	2.000	66.7	.000	.0
TOTALS	.000	.0	.000	.0	3.000	100.0	.000	.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES OCT 17 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES OCT 17 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES OCT 17 1978 TRAP NET 1.2 M		TRANSECT 0 00 METRES OCT 17 1978 TRAP NET 1.2 M	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	1 000	33.3	.000	.0	1.000	50.0
BROWN BULLHEAD	.000	.0	000	.0	4.000	50.0	.000	.0
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	1 000	33.3	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	3.000	37.5	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	1.000	33.3	1.000	12.5	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	1.000	50.0
TOTALS	.000	.0	3.000	100.0	8.000	100.0	2.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES OCT 18 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES OCT 18 1978 TRAP NET 1 2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES OCT 18 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES OCT 18 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	1.000	33.3	.000	.0
BROWN BULLHEAD	2.000	66.7	000	.0	.000	.0	1.000	50.0
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	1.000	50.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	1.000	33.3	.000	.0
WHITE SUCKER	1.000	33.3	1.000	100.0	1.000	33.3	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	3.000	100.0	1.000	100.0	3.000	100.0	2.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES OCT 19 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES OCT 19 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES OCT 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES OCT 20 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	1.000	20.0	.000	.0
BROWN BULLHEAD	.000	.0	000	.0	1.000	20.0	.000	.0
BURBOT	.000	.0	000	.0	1.000	20.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	1.000	20.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	000	.0	1.000	20.0	1.000	100.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	.000	.0	000	.0	5.000	100.0	1.000	100.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Y 00 METRES OCT 24 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES OCT 24 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES OCT 27 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES OCT 27 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	2 000	66.7	.000	.0	.000	.0
BURBOT	.000	.0	000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	1.000	33.3	.000	.0	.000	.0
TOTALS	.000	.0	3.000	100.0	.000	.0	.000	.0

APPENDIX 3-16 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0.00 METRES NOV 08 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES NOV 08 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES NOV 10 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT 0.00 METRES NOV 10 1978 TRAP NET 1.2 M AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BURBOT	.000	.0	.000	.0	.000	.0	.000	.0
CHANNEL CATFISH	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
EEL (AMERICIAN)	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
ROCK BASS	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE BASS	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-17

THE ABUNDANCE AND DISTRIBUTION OF ADULT AND JUVENILE FISH COLLECTED FROM MAY TO DECEMBER USING BEACH SEINES - WESLEYVILLE GS A - 1978

FISH SPECIES	TRANSECT Q 00 METRES MAY 16 1978 * BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT K 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT K 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT K 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	4.000	12.1	34.000	50.0	6.000	24.0
BROWN BULLHEAD	.000	.0	.000	.0	1.000	1.5	.000	.0
BLUNTNOSE MINNOW	1.000	.7	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	22.000	14.6	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	1.000	4.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	1.000	1.5	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	2.000	1.3	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	5.000	3.3	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	11.000	7.3	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	6.000	4.0	25.000	75.8	29.000	42.6	14.000	56.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	8.000	5.3	1.000	3.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	93.000	61.6	3.000	9.1	3.000	4.4	4.000	16.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	3.000	2.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	151.000	100.0	33.000	100.0	68.000	100.0	25.000	100.0

*Read as number caught in one seine haul (not average). Three replicate hauls to the shore were made on each transect.

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT M 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT M 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT M 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	000	.0	.000	.0	1.000	2.9
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	000	.0	1.000	6.7	.000	.0
LOG PERCH	.000	.0	000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	1.000	8.3	1.000	6.7	3.000	8.6
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	24.000	88.9	7.000	58.3	2.000	13.3	23.000	65.7
SLIMY SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	5.000	33.3	.000	.0
STICKLEBACK, THREESPINE	3.000	11.1	4.000	33.3	5.000	33.3	8.000	22.9
WHITE PERCH	.000	.0	.000	.0	1.000	6.7	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	27.000	100.0	12.000	100.0	15.000	100.0	35.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES MAY 17 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	1.000	2.3	000	.0	8.000	3.1	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	2.000	5.7
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	14.000	5.4	.000	.0
LONGNOSE DACE	1.000	2.3	.000	.0	.000	.0	5.000	14.3
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	2.000	.8	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	1.000	2.3	2.000	4.2	2.000	.8	6.000	17.1
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	37.000	84.1	30.000	62.5	140.000	54.5	9.000	25.7
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	1.000	2.3	1.000	2.1	10.000	3.9	13.000	37.1
STICKLEBACK, THREESPINE	3.000	6.8	15.000	31.3	81.000	31.5	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	44.000	100.0	48.000	100.0	257.000	100.0	35.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES MAY 17 1978 BEACH SEINE		TRANSECT S 30 METRES MAY 17 1978 BEACH SEINE		TRANSECT S 00 METRES MAY 17 1978 BEACH SEINE		TRANSECT Y 00 METRES MAY 17 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	2.000	2.1	2.000	5.1	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	1.000	2.2	.000	.0
LONGNOSE DACE	1.000	1.1	1.000	2.6	1.000	2.2	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	1.000	2.6	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	1.000	1.1	.000	.0	2.000	4.4	1.000	16.7
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	88.000	93.6	32.000	82.1	29.000	64.4	4.000	66.7
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	2.000	5.1	.000	.0	.000	.0
STICKLEBACK, THREESPINE	2.000	2.1	1.000	2.6	12.000	26.7	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	1.000	16.7
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	94.000	100.0	39.000	100.0	45.000	100.0	6.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Y 00 METRES MAY 17 1978 BEACH SEINE		TRANSECT Y 00 METRES MAY 17 1978 BEACH SEINE		TRANSECT O 00 METRES JUN 01 1978 BEACH SEINE		TRANSECT O 00 METRES JUN 01 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	2.000	100.0
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	1.000	.7	.000	.0	.000	.0
LOG PERCH	.000	.0	000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	000	.0	.000	.0	.000	.0
SHINER, EMERALD	2.000	2.4	2.000	1.3	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	000	.0	.000	.0	.000	.0
SMELT	83.000	97.6	145 000	94.8	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	4.000	2.6	14.000	100.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	1.000	.7	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	85.000	100.0	153.000	100.0	14.000	100.0	2.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES JUN 01 1978 BEACH SEINE		TRANSECT R 00 METRES JUN 01 1978 BEACH SEINE		TRANSECT R 00 METRES JUN 01 1978 BEACH SEINE		TRANSECT K 00 METRES JUN 02 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	3.000	6.1
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	000	0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	1.000	2.8	000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	1 000	6.3	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	1.000	25.0	4.000	8.2
SLIMY SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	35.000	97.2	15.000	93.8	3.000	75.0	42.000	85.7
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	36.000	100.0	16.000	100.0	4.000	100.0	49.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT K 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Q 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Q 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	1.000	50.0	1.000	3.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	2.000	6.1	1.000	25.0	2.000	15.4
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	3.000	9.1	.000	.0	2.000	15.4
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	1.000	50.0	27.000	81.8	3.000	75.0	9.000	69.2
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	2.000	100.0	33.000	100.0	4.000	100.0	13.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Q 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES JUN 02 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	1.000	50.0	.000	.0
SLIMY SCULPIN	.000	.0	000	.0	1.000	50.0	.000	.0
SHINER, SPOTTAIL	.000	.0	000	.0	.000	.0	7.000	100.0
STICKLEBACK, THREESPINE	2.000	100.0	1.000	100.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PERCH								
TOTALS	2.000	100.0	1.000	100.0	2.000	100.0	7.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Y 00 METRES JUN 02 1978 BEACH SEINE		TRANSECT Y 00 METRES JUN 02 1978 BEACH SEINE		TRANSECT Y 00 METRES JUN 02 1978 BEACH SEINE		TRANSECT M 00 METRES JUN 07 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	1.000	20.0	4.000	57.1	2.000	7.4
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	000	.0	.000	.0	000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	1.000	20.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	1.000	100.0	3.000	60.0	3.000	42.9	25.000	92.6
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	5.000	100.0	7.000	100.0	27.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT M 00 METRES JUN 07 1978 BEACH SEINE		TRANSECT M 00 METRES JUN 07 1978 BEACH SEINE		TRANSECT S 00 METRES JUL 11 1978 BEACH SEINE		TRANSECT S 00 METRES JUL 11 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	1.000	4.8	4.000	12.1	5.000	45.5	2.000	25.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	1.000	12.5
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	1.000	3.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	1.000	9.1	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	20.000	95.2	28.000	84.8	5.000	45.5	5.000	62.5
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	21.000	100.0	33.000	100.0	11.000	100.0	8.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES JUL 11 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 11 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 11 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 11 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	9.000	75.0	17 000	94.4	162.000	87.6	66.000	97.1
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	1.000	1.5
SHINER, COMMON	.000	.0	000	.0	.000	.0	.000	.0
SHINER, EMERALD	1.000	8.3	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	1.000	.5	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	20.000	10.8	1.000	1.5
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	2.000	16.7	1.000	5.6	1.000	.5	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	12.000	100.0	18.000	100.0	185.000	100.0	68.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT K 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT K 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT M 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	350.000	92.3	232 000	92.4	5.000	83.3	124.000	80.5
BROWN BULLHEAD	.000	.0	000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	1 000	.4	.000	.0	2.000	1.3
LOG PERCH	.000	.0	000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	1 000	.4	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	1.000	.4	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	000	.0	.000	.0	.000	.0
SMELT	26.000	6.9	12 000	4.8	1.000	16.7	27.000	17.5
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	3.000	.8	4.000	1.6	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	1.000	.6
TOTALS	379.000	100.0	251.000	100.0	6.000	100.0	154.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT M 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT M 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	178.000	89.4	150 000	84.3	41.000	91.1	41.000	91.1
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	1.000	2.2	.000	.0
SHINER, BLACKNOSE	.000	.0	000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	000	.0	.000	.0	.000	.0
SMELT	19.000	9.5	25 000	14.0	2.000	4.4	3.000	6.7
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	2.000	1.0	3.000	1.7	.000	.0	1.000	2.2
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	1.000	2.2	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	199.000	100.0	178.000	100.0	45.000	100.0	45.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES JUL 14 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	3.000	60.0	13 000	76.5	181.000	77.4	32.000	80.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	1.000	.4	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	1.000	20.0	000	.0	.000	.0	2.000	5.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	1.000	2.5
SHINER, EMERALD	.000	.0	.000	.0	2.000	.9	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	1.000	20.0	3.000	17.6	48.000	20.5	5.000	12.5
SLIMY SCULPIN	.000	.0	.000	.0	1.000	.4	.000	.0
SHINER, SPOTTAIL	.000	.0	1.000	5.9	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	1.000	.4	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	5.000	100.0	17.000	100.0	234.000	100.0	40.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Q 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	THANSECT Q 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Q 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	1.000	2.0	21.000	87.5	.000	.0	2.000	100.0
BROWN BULLHEAD	45.000	88.2	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	1.000	2.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	2.000	8.3	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	1.000	100.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	2.000	3.9	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	1.000	2.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	1.000	4.2	.000	.0	.000	.0
YELLOW PERCH	1.000	2.0	.000	.0	.000	.0	.000	.0
TOTALS	51.000	100.0	24.000	100.0	1.000	100.0	2.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES AUG 22 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	7.000	100.0	.000	.0	8.000	100.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	7.000	100.0	.000	.0	8.000	100.0	.000	.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Y 00 METRES AUG 22 1978 BEACH SEINE		TRANSECT O 00 METRES AUG 24 1978 BEACH SEINE		TRANSECT O 00 METRES AUG 24 1978 BEACH SEINE		TRANSECT O 00 METRES AUG 24 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	8.000	57.1	.000	.0	5.000	25.0	1.000	9.1
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	3.000	21.4	.000	.0	.000	.0	1.000	9.1
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	1.000	50.0	1.000	5.0	.000	.0
LOG PERCH	1.000	7.1	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	1.000	7.1	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	1.000	50.0	12.000	60.0	6.000	54.5
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	1.000	5.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	3.000	27.3
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	1.000	7.1	.000	.0	1.000	5.0	.000	.0
TOTALS	14.000	100.0	2.000	100.0	20.000	100.0	11.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES AUG 25 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT K 00 METRES AUG 25 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT K 00 METRES AUG 25 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT M 00 METRES AUG 25 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	1.000	100.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	1.000	100.0	.000	.0	.000	.0	1.000	100.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	2.000	100.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	1.000	100.0	2.000	100.0	1.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT M 00 METRES AUG 25 1978 BEACH SEINE		TRANSECT M CO METRES AUG 25 1978 BEACH SEINE		TRANSECT K 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT K 00 METRES SEP 20 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	1 000	25.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	3.000	75.0	.000	.0	.000	.0
LOG PERCH	.000	.0	000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	1.000	100.0
SMELT	1.000	100.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	1.000	100.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	4.000	100.0	1.000	100.0	1.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT M 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT M 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT M 00 METRES SEP 20 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	983.000	100.0	76.000	98.7	186.000	100.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	1.000	100.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	1.000	1.3	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	983.000	100.0	77.000	100.0	186.000	100.0	1.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0.00 METRES SEP 20 1978 BEACH SEINE		TRANSECT 0.00 METRES SEP 20 1978 BEACH SEINE		TRANSECT 0.00 METRES SEP 20 1978 BEACH SEINE		TRANSECT 0.00 METRES SEP 20 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	50.000	96.2	.000	.0	5.000	83.3	59.000	93.7
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	1.000	1.9	.000	.0	1.000	16.7	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	1.000	1.9	2.000	66.7	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	2.000	3.2
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	1.000	33.3	.000	.0	2.000	3.2
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	52.000	100.0	3.000	100.0	6.000	100.0	63.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Q 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT Q 30 METRES SEP 20 1978 BEACH SEINE		TRANSECT S 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT S 00 METRES SEP 20 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	2.000	50.0	62.000	70.5	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	1.000	25.0	1.000	1.1	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	1.000	25.0	25.000	28.4	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	4.000	100.0	88.000	100.0	.000	.0	.000	.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT Y 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT Y 00 METRES SEP 20 1978 BEACH SEINE		TRANSECT Y 00 METRES SEP 20 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT O 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT O 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT Q 00 METRES OCT 19 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	1.000	10.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	1.000	10.0	1.000	100.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	1.000	50.0
SHINER, EMERALD	1.000	10.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	1.000	10.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	2.000	100.0	1.000	50.0
SHINER, SPOTTAIL	6.000	60.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH								
TOTALS	10.000	100.0	1.000	100.0	2.000	100.0	2.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Q 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT Q 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT S 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT S 00 METRES OCT 19 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	2.000	66.7	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	1.000	33.3	.000	.0	3.000	60.0	14.000	100.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	2.000	40.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	3.000	100.0	.000	.0	5.000	100.0	14.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT Y 10 METRES OCT 19 1978 BEACH SEINE		TRANSECT Y 00 METRES OCT 19 1978 BEACH SEINE		TRANSECT Y 00 METRES OCT 19 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	1.000	100.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	14.000	87.5	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	2.000	12.5	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	16.000	100.0	.000	.0	1.000	100.0	.000	.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES OCT 24 1978 BEACH SEINE		TRANSECT K 00 METRES OCT 24 1978 BEACH SEINE		TRANSECT K 00 METRES OCT 24 1978 BEACH SEINE		TRANSECT M 00 METRES OCT 24 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	1.000	100.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	1.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT M 00 METRES OCT 24 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT M 30 METRES OCT 24 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT K 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT K 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT K 00 METRES NOV 07 1978 BEACH SEINE		TRANSECT A 00 METRES NOV 07 1978 BEACH SEINE		TRANSECT M 00 METRES NOV 07 1978 BEACH SEINE		TRANSECT M 00 METRES NOV 07 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT 0 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT 0 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	111.000	99.1	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	1.000	50.0	.000	.0
BLUNTNOSE MINNOW	1.000	.9	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	1.000	100.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	1.000	50.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	112.000	100.0	1.000	100.0	2.000	100.0	.000	.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Q 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Q 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES NOV 07 1978 BEACH SEINE AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	1.000	2.9	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	33.000	97.1	44.000	100.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	1.000	100.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	34.000	100.0	44.000	100.0	.000	.0	1.000	100.0

APPENDIX 3-17 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES NOV 07 1978 BEACH SEINE		TRANSECT Y CO METRES NOV 07 1978 BEACH SEINE		TRANSECT Y 00 METRES NOV 07 1978 BEACH SEINE		TRANSECT Y 00 METRES NOV 07 1978 BEACH SEINE	
	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION	AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
BROWN BULLHEAD	.000	.0	.000	.0	.000	.0	.000	.0
BLUNTNOSE MINNOW	1.000	100.0	.000	.0	.000	.0	.000	.0
CYPRINID	.000	.0	.000	.0	.000	.0	.000	.0
FATHEAD MINNOW	.000	.0	.000	.0	.000	.0	.000	.0
LONGNOSE DACE	.000	.0	.000	.0	.000	.0	.000	.0
LOG PERCH	.000	.0	.000	.0	.000	.0	.000	.0
MOTTLED SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
PUMPKINSEED	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, BLACKNOSE	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, COMMON	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, EMERALD	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, GOLDEN	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
SLIMY SCULPIN	.000	.0	.000	.0	.000	.0	.000	.0
SHINER, SPOTTAIL	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE PERCH	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-18

THE ABUNDANCE AND DISTRIBTUION OF ADULT AND JUVENILE FISH FROM MAY TO DECEMBER BY ELECTROFISHING WESLEYVILLE GS A - 1978

APPENDIX 3-18

THE ABUNDANCE AND DISTRIBUTION OF ADULT AND JUVENILE FISH COLLECTED FROM MAY TO DECEMBER BY ELECTROFISHING
WESLEYVILLE GS A - 1978

FISH SPECIES	TRANSECT K 00 METRES MAY 26 1978 ELECTROFISHING * AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT K 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT M 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT M 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	6.000	85.7	.000	.0	.000	.0	.000	.0
WHITE SUCKER	1.000	14.3	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	7.000	100.0	.000	.0	.000	.0	.000	.0

*Read as number of fish caught (not average) in one electrofishing 'run.' There were two replicate 'runs' at each location.

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	2.000	100.0	.000	.0	.000	.0	36.000	69.2
CARP	.000	.0	.000	.0	.000	.0	3.000	5.8
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	1.000	1.9
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	12.000	23.1
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	2.000	100.0	.000	.0	.000	.0	52.000	100.0

APPENDIX 3-18 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES MAY 26 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	1.000	100.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	1.000	100.0	.000	.0	.000	.0

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Q 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	47.000	100.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	47.000	100.0

APPENDIX 3-18 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT Q 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Q 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES JUN 12 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-18 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O (0 METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	2.000	100.0	2.000	100.0	21.000	100.0	15.000	93.8
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	1.000	6.3
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	2.000	100.0	2.000	100.0	21.000	100.0	16.000	100.0

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S (O METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES JUL 14 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	4.000	100.0	2.000	100.0	1.000	50.0	7.000	100.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	1.000	50.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	4.000	100.0	2.000	100.0	2.000	100.0	7.000	100.0

APPENDIX 3-18 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES AUG 21 1978 ELECTROFISHING		TRANSECT O 00 METRES AUG 21 1978 ELECTROFISHING		TRANSECT Q 00 METRES AUG 21 1978 ELECTROFISHING		TRANSECT Q 00 METRES AUG 21 1978 ELECTROFISHING	
	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES AUG 21 1978 ELECTROFISHING		TRANSECT S 00 METRES AUG 21 1978 ELECTROFISHING		TRANSECT Y 00 METRES AUG 21 1978 ELECTROFISHING		TRANSECT Y 00 METRES AUG 21 1978 ELECTROFISHING	
	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION	AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

APPENDIX 3-18 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	2.000	100.0	.000	.0	11.000	100.0	11.000	100.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	2.000	100.0	.000	.0	11.000	100.0	11.000	100.0

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES SEP 21 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	25.000	71.4	25.000	71.4	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	10.000	28.6	10.000	28.6	.000	.0	.000	.0
TOTALS	35.000	100.0	35.000	100.0	.000	.0	.000	.0

APPENDIX 3-18 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT O 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	.000	.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	.000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT S 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION	TRANSECT Y 00 METRES OCT 19 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COMPOSITION
ALEWIFE	.000	.0	.000	.0	.000	.0	1.000	100.0
CARP	.000	.0	.000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	.000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	.000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	.000	.0	.000	.0	.000	.0
SMELT	.000	.0	.000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	.000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	1.000	100.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	.000	.0	.000	.0	.000	.0
TOTALS	.000	.0	1.000	100.0	.000	.0	1.000	100.0

APPENDIX 3-18 (Cont'd)

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT O 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT O 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT O 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT O 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	.000	.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	0	.000	.0	.000	.0
SALMON, COHO	.000	.0	000	.0	.000	.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	.000	.0	.000	.0	.000	.0	.000	.0

WESLEYVILLE JAN 01 1978 TO DEC 31 1978

FISH SPECIES	TRANSECT S 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT S 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION	TRANSECT Y 00 METRES NOV 06 1978 ELECTROFISHING AVERAGE # OF FISH CAUGHT	% COM-POSITION
ALEWIFE	.000	.0	000	.0	.000	.0	.000	.0
CARP	.000	.0	000	.0	.000	.0	.000	.0
GIZZARD SHAD	1.000	100.0	000	.0	.000	.0	.000	.0
RAINBOW TROUT	.000	.0	000	.0	.000	.0	.000	.0
SALMON, COHO	.000	.0	000	.0	1.000	100.0	.000	.0
SMELT	.000	.0	000	.0	.000	.0	.000	.0
STICKLEBACK, THREESPINE	.000	.0	000	.0	.000	.0	.000	.0
WHITE SUCKER	.000	.0	000	.0	.000	.0	.000	.0
YELLOW PERCH	.000	.0	000	.0	.000	.0	.000	.0
TOTALS	1.000	100.0	000	.0	1.000	100.0	.000	.0

APPENDIX 3-19

(a) ANALYSIS OF VARIANCE (ANOVA) FOR DOMINANT FISH SPECIES TAKEN IN GILL NETS ON TRANSECTS K AND M WESLEYVILLE GS A - 1978

Calculated F-Statistic

	Transect	Depth	Date	Transect vs Depth	Transect vs Date	Depth vs Date
Alewife	$*4.47_{[1,24]}$	$^{NS}0.46_{[4,24]}$	$**7.40_{[6,24]}$	$^{NS}1.28_{[4,24]}$	$*2.99_{[6,24]}$	$^{NS}0.96_{[24,24]}$
Smelt	$*4.44_{[1,24]}$	$*4.02_{[4,24]}$	$**4.00_{[6,24]}$	$^{NS}1.90_{[4,24]}$	$^{NS}0.48_{[6,24]}$	$*2.38_{[24,24]}$
White Sucker	$^{NS}1.56_{[1,24]}$	$**8.79_{[4,24]}$	$^{NS}1.63_{[6,24]}$	$*3.95_{[4,24]}$	$^{NS}1.37_{[6,24]}$	$**3.12_{[24,24]}$

(b) ANALYSIS OF VARIANCE (ANOVA) FOR DOMINANT FISH SPECIES TAKEN IN 15 METRE BOTTOM NETS ON TRANSECTS K,M,O,Q,R,S, AND Y WESLEYVILLE GS 'A' - 1978

	Transect	Date
Alewife	$^{NS}0.55_{[4,24]}$	$** 6.69_{[6,24]}$
Smelt	$^{NS}1.63_{[4,24]}$	$**15.72_{[6,24]}$
White Sucker	$^{NS}0.33_{[4,24]}$	$** 8.77_{[6,24]}$

* Significant at α .05

** Significant at α .01

NS Not Significant

APPENDIX 3-20(a), 3-20(b) and 3-20(c)

3(a) ANALYSIS OF VARIANCE FOR DOMINANT FISH SPECIES TAKEN IN 1.2 METRE TRAP NETS WESLEYVILLE GS A - 1978

	Calculated F Statistic	
	Transect	Date
White Sucker	$^{NS}0.27_{[3,72]}$	$^{**}6.96_{[5,72]}$
Brown Bullhead	$^{NS}0.08_{[3,72]}$	$^{NS}0.59_{[5,72]}$
Alewife	$^{NS}1.63_{[3,72]}$	$^{*}2.50_{[5,72]}$

3(b) ANALYSIS OF VARIANCE FOR DOMINANT FISH SPECIES TAKEN IN BEACH SEINES WESLEYVILLE GS A - 1978

	Calculated F Statistic	
	Transect	Date
Alewife	$^{NS}0.42_{[5,84]}$	$^{**}24.99_{[6,84]}$
Smelt	$^{NS}0.61_{[5,84]}$	$^{**}66.37_{[6,84]}$
Threespine Stickleback	$^{NS}1.44_{[5,84]}$	$^{**}27.34_{[6,84]}$

3(c) ANALYSIS OF VARIANCE FOR DOMINANT FISH SPECIES TAKEN BY ELECTROFISHING WESLEYVILLE GS A - 1978

	Calculated F Statistic	
	Transect	Date
Alewife	$^{NS}0.42_{[5,84]}$	$^{**}24.99_{[6,84]}$

* Significant at α .05

** Significant at α .01

NS Not significant

APPENDIX 3-21

ACOUSTIC CENSUS FISH DENSITIES (COUNT/10 000 m^3)
FOR EACH TRANSECT RUN AT WESLEYVILLE GS A - 1978

APPENDIX 3-21

ACOUSTIC CENSUS FISH DENSITIES FOR WESLEYVILLE GS A , 1978
RESEARCH SITE C1 - AUGUST 1, 1978 - 23:25-1:45

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 1

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19	23.	30.	COUNT/10000M*M
1	4.1	0	3	7538 †	0	0	C	0	0		8668
2	5.4	1	5	5433	0	0	C	0	0		13310
3	6.4	0	2	3391	0	0	C	0	0		11698
4	7.1	5	2	2328	0	0	C	0	0		9312
5	8.2	0	1	502	2487	0	C	0	0		5116
6	9.2	0	0	215	1245	0	C	0	0		3661
7	11.0	0	0	71	400	0	C	0	0		1864
8	12.0	0	1	71	69	1085	C	0	0		1645
9	12.8	0	0	0	230	1960	C	0	0		3957
10	13.7	0	0	0	161	975	C	0	0		3325
11	14.5	0	1	0	69	938	C	0	0		3559
12	14.9	0	0	0	230	458	C	0	0		2706
13	15.4	5	1	71	115	188	569	0	0		1723
14	16.0	0	1	0	23	255	664	0	0		1742
15	17.2	0	1	71	92	155	227	0	0		1760
16	18.0	0	0	71	69	144	628	0	0		3020
17	17.9	0	2	214	230	55	548	0	0		3585
18	18.2	0	0	287	46	55	392	0	0		2806
19	18.6	0	0	143	115	111	504	0	0		3290
20	19.2	0	0	285	23	122	449	1975	0		4009
21	19.7	0	0	215	92	33	220	1684	0		3334
22	19.7	0	0	0	21	0	C	126	0		178**

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 2

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	19.7	0	0	215	69	188	351	455	0		3633
2	19.2	0	0	287	115	133	329	1652	0		3853
3	18.9	0	4	359	253	88	390	0	0		4321
4	18.7	0	0	286	299	44	598	0	0		4698
5	18.2	0	1	0	92	155	428	0	0		2379
6	17.2	0	0	215	92	100	379	0	0		2461
7	15.5	0	0	0	115	167	1133	0	0		1694
8	14.6	0	0	143	138	237	C	0	0		1989
9	14.5	0	0	0	115	329	C	0	0		1611
10	14.1	0	1	0	345	462	C	0	0		2812
11	13.1	0	4	142	230	1248	C	0	0		4171
12	12.4	4	2	71	253	1184	C	0	0		2894
13	10.9	2	3	142	490	0	C	0	0		2454
14	9.1	0	0	71	1386	0	C	0	0		3263
15	8.4	0	2	71	2077	0	C	0	0		3087
16	7.4	0	0	219	2884	0	C	0	0		1885
17	5.9	1	1	1211	0	0	C	0	0		3572
18	4.7	0	0	2761	0	0	C	0	0		4831
19	4.0	0	0	3094	0	0	C	0	0		3094

LEGEND:

† Density in first data logging interval for depth shell 3-7 m below transducer

MM Missing Bottoms

EE Extended Echoes

Density = -1: too shallow to obtain sample

* Fewer than 60 transmissions in interval

** Outside normal sample grid

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 3

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	5.5	0	0	2250	0	0	0	0	0	0	5625
2	6.7	0	0	666	0	0	0	0	0	0	2497
3	7.9	0	0	71	1494	0	0	0	0	0	1628
4	8.5	0	1	0	1448	0	0	0	0	0	2744
5	8.9	0	0	0	1192	0	0	0	0	0	2264
6	10.0	0	1	71	695	0	0	0	0	0	2403
7	11.5	0	0	0	322	1716	0	0	0	0	2060
8	12.2	0	1	71	207	930	0	0	0	0	2274
9	13.5	5	1	0	161	737	0	0	0	0	2449
10	14.0	0	0	71	115	267	0	0	0	0	1558
11	14.5	0	0	71	115	427	0	0	0	0	2259
12	15.1	0	1	214	46	210	0	0	0	0	1880
13	16.3	0	0	142	115	100	289	0	0	0	1818
14	17.2	0	1	143	69	133	397	0	0	0	2253
15	17.5	0	5	215	161	133	411	0	0	0	3084
16	18.0	0	2	287	230	166	580	0	0	0	4472
17	18.5	0	0	503	253	166	690	0	0	0	6103
18	19.2	0	1	431	92	188	288	0	0	0	3996
19	20.1	3	2	215	276	88	455	986	0	0	5220
20	20.7	0	0	286	46	88	246	383	0	0	3315
21	21.2	0	1	71	69	44	123	518	0	0	2367
22	21.2	0	0	822	263	0	74	1147	0	0	7102 *

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 4

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	21.8	0	0	358	276	244	156	731	0		6182
2	21.3	0	0	503	368	222	189	711	0		6763
3	21.0	0	0	287	184	155	215	490	0		4344
4	20.7	0	2	215	276	88	599	523	0		5574
5	19.3	0	0	574	276	77	462	804	0		5837
6	17.8	0	0	142	138	77	691	0	0		3362
7	17.8	0	0	142	138	77	551	0	0		2970
8	16.0	0	1	71	230	221	376	0	0		2464
9	15.5	0	0	71	115	199	1627	0	0		2353
10	15.1	0	0	215	92	301	0	0	0		2432
11	14.2	0	0	215	23	462	0	0	0		2453
12	13.6	0	0	0	0	650	0	0	0		1690
13	13.1	0	0	142	69	1057	0	0	0		3116
14	11.9	0	0	143	115	1343	0	0	0		2240
15	10.0	0	0	430	173	0	0	0	0		2230
16	8.7	0	0	215	789	0	0	0	0		2201
17	7.9	0	0	430	944	0	0	0	0		2522
18	6.8	0	0	964	0	0	0	0	0		3063
19	5.9	0	0	1686	0	0	0	0	0		4805
20	5.1	0	0	6686	0	0	0	0	0		14374

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 5

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	4.7	0	0	1651	C	0	0	0	0		2806
2	6.1	0	0	2191	0	0	0	0	0		6901
3	7.1	0	0	750	0	0	0	0	0		3000
4	8.2	0	0	719	408	0	0	0	0		3386
5	9.3	0	0	286	194	0	0	0	0		1590
6	11.0	0	0	430	256	646	0	0	0		2731
7	12.5	0	0	215	92	1015	0	0	0		2801
8	12.9	0	0	286	23	774	0	0	0		2667
9	13.2	0	0	71	92	1131	0	0	0		3196
10	14.4	0	0	215	46	834	0	0	0		3879
11	15.1	0	0	215	69	401	0	0	0		2740
12	15.8	0	0	143	161	133	793	0	0		2382
13	16.2	0	0	143	207	255	920	0	0		3478
14	16.7	0	0	287	92	244	932	0	0		4076
15	17.7	0	0	359	184	133	644	0	0		4475
16	18.5	0	0	71	230	99	421	0	0		3052
17	18.9	0	2	215	92	222	593	0	0		4428
18	19.4	0	0	71	69	266	638	561	0		4400
19	20.0	0	0	71	161	222	494	834	0		4626
20	20.8	0	0	503	161	122	247	550	0		5122
21	21.0	0	0	286	115	77	110	773	0		3936
22	21.2	0	0	863	138	66	117	970	0		6869 *

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 6

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	21.0	0	0	358	92	122	664	427	0		5776
2	20.7	0	0	575	161	133	443	358	0		5874
3	20.2	0	0	286	184	199	390	410	0		4707
4	19.4	0	0	143	46	422	599	450	0		5020
5	18.7	0	0	143	184	244	531	0	0		4248
6	18.0	0	0	287	138	244	664	0	0		4668
7	16.9	0	0	143	46	177	509	0	0		2431
8	16.0	0	0	359	161	433	597	0	0		4379
9	15.0	0	0	285	184	518	0	0	0		3948
10	14.1	0	0	215	46	695	0	0	0		3233
11	13.4	0	1	286	207	516	0	0	0		3184
12	12.5	0	0	0	115	150	0	0	0		677
13	11.6	0	0	71	207	585	0	0	0		1463
14	10.5	0	0	215	248	0	0	0	0		1728
15	9.6	0	0	287	161	0	0	0	0		1574
16	9.1	0	0	71	642	0	0	0	0		1664
17	7.6	0	0	75	750	0	0	0	0		712
18	5.5	0	0	2060	0	0	0	0	0		5150
19	4.9	1	0	9021	0	0	0	0	0		17139
20	4.1	0	0	10677	0	0	0	0	0		12278

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 7

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	Count/10 000 m³ 15.	19.	23.	30.	COUNT/10000M*M
1	3.8	0	0		9461	0	0	0	0	0	8041
2	4.7	0	0		3815	0	0	0	0	0	6485
3	5.6	0	0		2039	0	0	0	0	0	5403
4	6.9	0	0		486	0	0	0	0	0	1871
5	8.5	0	0		430	1533	0	0	0	0	4019
6	8.9	0	0		359	746	0	0	0	0	2853
7	8.5	0	0		71	1124	0	0	0	0	2026
8	9.1	0	0		71	772	0	0	0	0	1905
9	9.8	0	1		214	113	0	0	0	0	1172
10	11.0	0	1		71	319	0	0	0	0	1560
11	11.9	0	1		71	23	833	0	0	0	1125
12	12.7	5	2		71	46	498	0	0	0	1314
13	13.6	0	0		0	69	1726	0	0	0	4763
14	14.1	0	2		71	69	1566	0	0	0	5492
15	14.9	5	2		0	161	736	0	0	0	3514
16	15.6	0	0		0	69	1267	639	0	0	5759
17	16.5	0	2		0	115	988	625	0	0	5380
18	17.5	0	0		142	69	322	1164	0	0	5042
19	18.0	0	2		142	23	77	833	0	0	3508
20	18.8	0	0		71	184	66	544	0	0	3324
21	19.3	0	0		359	46	88	690	705	0	4978

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 8

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	19.7	0	0		214	69	177	280	976	0	3643
2	19.2	0	0		142	46	144	405	0	0	2948
3	18.5	0	0		71	69	100	577	0	0	2950
4	17.8	0	0		71	69	22	540	0	0	2160
5	16.7	0	1		142	23	122	1122	0	0	2999
6	14.9	0	1		0	46	364	0	0	0	1585
7	13.6	0	0		0	23	953	0	0	0	2617
8	12.2	0	0		71	69	904	0	0	0	1690
9	10.3	0	0		0	480	0	0	0	0	1583
10	8.8	0	0		142	683	0	0	0	0	1763
11	8.3	0	0		71	991	0	0	0	0	1572
12	8.5	0	0		287	669	0	0	0	0	2151
13	9.0	0	0		215	508	0	0	0	0	1901
14	9.4	0	0		0	416	0	0	0	0	1003
15	8.5	0	0		503	2040	0	0	0	0	4970
16	7.1	0	0		1410	0	0	0	0	0	5640
17	6.0	0	0		2733	0	0	0	0	0	8199
18	5.1	1	1		5501	0	0	0	0	0	11277
19	4.4	0	0		6961	0	0	0	0	0	9745
20	3.7	1	1		9264	0	0	0	0	0	6484

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 AUG TRANSECT# 9

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	3.8	0	0	6724	0	0	0	0	0	0	5715
2	4.4	0	0	6528	0	0	0	0	0	0	8812
3	4.7	0	0	3102	0	0	0	0	0	0	5428
4	5.3	0	0	3162	0	0	0	0	0	0	7272
5	5.9	0	0	2738	0	0	0	0	0	0	7803
6	6.6	0	0	1994	0	0	0	0	0	0	7178
7	8.0	0	0	861	1653	0	0	0	0	0	5097
8	9.1	0	0	502	2930	0	0	0	0	0	8160
9	9.5	0	0	430	1586	0	0	0	0	0	5605
10	9.4	0	1	287	3072	0	0	0	0	0	8520
11	9.5	0	0	214	2654	0	0	0	0	0	7623
12	10.2	0	0	359	1485	0	0	0	0	0	6188
13	11.2	0	0	71	678	1692	0	0	0	0	3419
14	12.5	0	0	0	253	2531	0	0	0	0	4935
15	12.7	0	0	0	253	1408	0	0	0	0	3476
16	13.1	0	0	71	184	793	0	0	0	0	2724
17	14.4	0	0	71	115	919	0	0	0	0	3822
18	15.6	0	1	71	138	666	1176	0	0	0	4205
19	16.0	0	0	143	46	233	2796	0	0	0	4344
20	16.5	3	2	71	92	144	1074	0	0	0	2839
21	17.0	1	0	0	69	166	1206	0	0	0	3412

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 AUG

AMPLITUDE-CLASS .VS. DEPTH	3.	7.	11.	Count/10 000 m^3 15.	19.	23.	30.
1		70.61	70.71	76.66	80.14	77.35	.00
2		11.55	18.60	15.98	14.75	15.84	.00
3		10.85	7.96	5.35	3.66	3.74	.00
4		6.99	2.72	2.00	1.45	3.07	.00

FISH DENSITIES AUDIT/ANALYSIS PROGRAM TERMINATED

ACOUSTIC CENSUS FISH DENSITIES FOR WESLEYVILLE GS A, 1978
RESEARCH SITE C1 - SEPTEMBER 20, 1978 - 11:10-12:55

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 1

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19	23.	30.	COUNT/10000M·M
1	4.9	0	0	1026 †	0	0	0	0	0	1898	
2	5.9	0	0	252	0	0	0	0	0	730	
3	7.1	0	1	301	0	0	0	0	0	1204	
4	8.1	0	0	0	113	0	0	0	0	129	
5	9.0	0	8	0	1920	0	0	0	0	3935	
6	10.5	0	0	0	0	0	0	0	0	0	
7	11.6	0	2	0	0	445	0	0	0	289	
8	12.5	0	0	0	0	108	0	0	0	162	
9	13.4	0	0	0	0	0	0	0	0	0	
10	14.1	0	1	0	0	45	0	0	0	141	
11	14.7	0	0	0	0	0	0	0	0	0	
12	15.3	0	1	0	0	0	424	0	0	127	
13	15.4	2	10	0	0	11	0	0	0	44	
14	15.6	0	0	0	23	0	106	0	0	155	
15	16.5	0	0	0	0	0	40	0	0	57	
16	17.7	0	1	0	0	0	10	0	0	27	
17	18.5	0	0	71	0	0	23	0	0	362	
18	18.7	0	1	0	0	0	127	0	0	469	
19	19.2	0	1	0	0	33	13	493	0	307	
20	19.6	0	1	71	0	0	0	337	0	486	
21	19.4	0	1	71	0	0	38	871	0	784	

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 2

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19	23.	30.	COUNT/10000M·M
1	19.9	0	0	0	0	0	39	132	0	274	
2	19.3	0	0	0	0	0	53	616	0	392	
3	19.1	0	0	0	0	0	0	0	0	0	
4	18.5	0	0	0	0	0	0	0	0	0	
5	18.0	0	1	0	0	0	9	0	0	26	
6	18.0	0	0	0	0	0	54	0	0	164	
7	17.7	0	0	0	0	0	40	0	0	110	
8	16.3	0	0	0	0	33	46	0	0	191	
9	15.1	0	1	0	0	0	0	0	0	0	
10	15.1	0	0	0	0	0	0	0	0	0	
11	14.5	0	1	0	0	63	0	0	0	223	
12	13.6	0	0	0	0	0	0	0	0	0	
13	12.7	0	0	0	0	0	0	0	0	0	
14	11.9	0	0	0	0	64	0	0	0	57	
15	11.1	0	0	0	23	0	0	0	0	92	
16	9.6	0	0	0	0	0	0	0	0	0	
17	8.6	0	0	0	223	0	0	0	0	367	
18	7.9	0	3	71	420	0	0	0	0	683	
19	6.9	0	0	238	0	0	0	0	0	928	
20	5.3	0	0	537	0	0	0	0	0	1503	
21	4.9	0	0	0	0	0	0	0	0	0	

LEGEND:

† Density in first data logging interval for depth shell 3-7 m below transducer

MM Missing Bottoms

EE Extended Echoes

Density = -1: too shallow to obtain sample

* Fewer than 60 transmissions in interval

** Outside normal sample grid

APPENDIX 3-21 Cont'd

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 3

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	3.6	0	0	0	0	0	0	0	0	0	0
2	4.5	0	0	341	0	0	0	0	0	0	511
3	5.9	0	0	253	0	0	0	0	0	0	721
4	7.3	0	0	72	886	0	0	0	0	0	553
5	8.2	5	1	0	1329	0	0	0	0	0	1661
6	9.2	0	0	0	52	0	0	0	0	0	114
7	10.6	0	0	0	192	0	0	0	0	0	691
8	11.6	0	1	0	0	543	0	0	0	0	352
9	12.3	4	2	0	0	599	0	0	0	0	778
10	13.0	0	0	0	0	101	0	0	0	0	207
11	13.9	0	1	0	0	563	0	0	0	0	1604
12	14.3	0	0	0	0	28	0	0	0	0	92
13	14.4	0	1	0	0	149	0	0	0	0	506
14	14.6	0	0	0	0	25	0	0	0	0	90
15	15.5	0	0	0	0	134	0	0	0	0	536
16	17.0	0	0	0	0	0	0	0	0	0	0
17	17.9	0	0	0	0	0	115	0	0	0	333
18	18.5	0	1	0	0	0	139	0	0	0	479
19	18.8	0	2	0	0	0	54	0	0	0	205
20	19.2	0	1	0	0	0	104	0	0	0	416
21	19.5	1	7	0	0	22	142	0	0	0	656

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 4

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	20.0	0	1	71	0	11	19	210	0	603	
2	19.7	0	1	0	0	88	32	279	0	661	
3	19.3	0	0	0	0	0	13	410	0	195	
4	19.2	0	2	0	92	0	32	410	0	598	
5	18.8	0	0	71	0	0	63	0	0	520	
6	18.8	0	2	0	0	33	21	0	0	210	
7	17.8	0	1	0	0	0	57	0	0	159	
8	16.1	0	1	0	0	0	168	0	0	184	
9	15.1	0	0	0	0	0	0	0	0	0	
10	14.5	5	1	0	0	140	0	0	0	496	
11	13.8	0	0	0	0	17	0	0	0	47	
12	13.5	0	12	0	0	300	0	0	0	750	
13	12.8	10	5	0	0	146	0	0	0	262	
14	11.0	0	0	0	0	0	0	0	0	0	
15	9.6	0	0	0	123	0	0	0	0	319	
16	8.5	0	1	0	752	0	0	0	0	1128	
17	8.1	0	0	0	228	0	0	0	0	262	
18	7.5	0	0	0	546	0	0	0	0	273	
19	6.1	0	0	0	0	0	0	0	0	0	
20	4.9	0	0	0	0	0	0	0	0	0	
21	4.0	0	0	0	0	0	0	0	0	0	

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 5

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	Count/10 000 m³ 15.	19.	23.	30.	COUNT/10000M·M
1	3.9	0	0	0	0	0	0	0	0	0	0
2	5.1	0	0	0	0	0	0	0	0	0	0
3	6.6	0	0	0	0	0	0	0	0	0	0
4	7.7	0	0	0	193	0	0	0	0	0	135
5	8.7	0	0	0	71	0	0	0	0	0	120
6	9.0	0	0	0	120	0	0	0	0	0	234
7	10.0	0	0	359	0	0	0	0	0	0	1436
8	11.5	0	0	0	0	0	0	0	0	0	0
9	12.2	0	0	0	0	92	0	0	0	0	110
10	13.0	5	2	0	0	152	0	0	0	0	311
11	13.5	0	2	0	0	20	0	0	0	0	49
12	14.3	0	0	0	0	98	0	0	0	0	323
13	15.0	0	0	0	0	67	0	0	0	0	264
14	16.0	7	0	0	0	0	184	0	0	0	184
15	16.9	0	1	0	0	0	78	0	0	0	148
16	17.5	0	1	0	0	0	127	0	0	0	311
17	17.8	0	0	0	0	0	9	0	0	0	25
18	18.0	0	4	0	0	22	0	0	0	0	88
19	18.8	0	4	0	0	0	113	0	0	0	423
20	20.0	0	2	0	0	0	19	260	0	0	349
21	20.8	0	0	0	0	0	6	61	0	0	136
22	20.7	0	0	0	0	0	0	0	0	0	0 *

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 6

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M·M
1	20.7	0	0	0	0	11	110	337	0	0	1073
2	20.5	0	0	0	0	0	13	66	0	0	147
3	19.8	0	2	0	0	0	19	150	0	0	196
4	19.0	0	1	0	0	0	54	0	0	0	213
5	18.0	0	1	0	0	0	109	0	0	0	327
6	17.0	0	0	0	0	0	58	0	0	0	116
7	16.2	0	0	0	0	0	189	0	0	0	217
8	15.9	0	0	0	0	0	315	0	0	0	283
9	15.5	0	0	0	0	55	585	0	0	0	512
10	14.9	0	0	0	0	11	0	0	0	0	42
11	13.6	0	0	0	0	18	0	0	0	0	46
12	12.7	0	0	0	0	122	0	0	0	0	213
13	12.2	0	1	0	0	511	0	0	0	0	613
14	11.5	0	0	0	184	0	0	0	0	0	736
15	10.6	0	0	0	0	0	0	0	0	0	0
16	9.4	0	0	429	94	0	0	0	0	0	1936
17	8.4	0	1	0	283	0	0	0	0	0	382
18	7.4	0	1	72	0	0	0	0	0	0	288
19	6.4	0	1	373	0	0	0	0	0	0	1286
20	5.4	0	0	662	0	0	0	0	0	0	1621
21	4.5	0	0	2457	0	0	0	0	0	0	3085

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 7

INTERVAL	AVE-DEPTH	NM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	4.9	0	0	0	0	0	0	0	0	0	0
2	5.7	0	0	0	0	0	0	0	0	0	0
3	6.6	0	0	173	0	0	0	0	0	0	622
4	7.6	0	0	0	227	0	0	0	0	0	136
5	8.5	0	0	0	0	0	0	0	0	0	0
6	9.6	0	0	0	0	0	0	0	0	0	0
7	11.4	0	1	0	23	728	0	0	0	0	383
8	12.4	0	0	0	46	123	0	0	0	0	350
9	12.5	0	0	0	0	210	0	0	0	0	325
10	13.1	0	0	0	0	141	0	0	0	0	303
11	14.2	0	0	0	0	398	0	0	0	0	1273
12	15.0	0	1	0	0	68	0	0	0	0	272
13	15.7	0	0	0	0	0	0	0	0	0	0
14	16.2	0	0	0	0	0	0	26	0	0	29
15	17.0	0	0	0	0	0	0	84	0	0	172
16	18.2	0	0	0	0	0	0	16	0	0	50
17	18.8	0	0	0	0	0	0	13	0	0	50
18	19.8	0	1	0	0	0	0	18	197	0	229
19	20.3	0	3	0	0	0	0	64	300	0	646
20	20.9	0	0	0	0	0	144	71	0	0	860
21	21.3	0	0	0	0	0	155	58	37	0	938

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 8

INTERVAL	AVE-DEPTH	NM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	21.0	0	1	0	0	0	0	26	0	0	104
2	20.7	0	2	0	0	0	0	0	0	0	0
3	20.2	0	0	0	0	0	0	6	32	0	62
4	19.5	0	0	0	0	0	0	0	0	0	0
5	18.7	0	1	0	0	22	35	0	0	0	217
6	17.9	0	0	0	0	44	19	0	0	0	231
7	16.7	0	0	0	0	0	0	0	0	0	0
8	15.7	0	0	0	0	0	91	0	0	0	63
9	15.1	0	0	0	0	0	0	0	0	0	0
10	14.5	0	4	71	0	105	0	0	0	0	651
11	14.1	0	1	0	0	0	0	0	0	0	0
12	13.2	0	0	0	0	22	0	0	0	0	49
13	12.0	0	0	71	0	0	0	0	0	0	284
14	11.2	0	0	0	69	0	0	0	0	0	276
15	10.6	0	0	0	0	0	0	0	0	0	0
16	9.4	0	0	0	0	0	0	0	0	0	0
17	8.5	0	0	0	0	0	0	0	0	0	0
18	6.9	0	0	0	0	0	0	0	0	0	0
19	5.1	0	0	0	0	0	0	0	0	0	0
20	4.4	0	0	371	0	0	0	0	0	0	537
21	3.8	0	0	0	0	0	0	0	0	0	0

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 9

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	.0	10	0	-1	0	0	0	0	0	0	0
2	4.9	0	1	1041	0	0	0	0	0	0	1925
3	5.3	0	0	0	0	0	0	0	0	0	0
4	6.3	0	0	0	0	0	0	0	0	0	0
5	7.6	0	0	0	0	0	0	0	0	0	0
6	8.1	0	0	0	0	835	0	0	0	0	918
7	8.1	0	0	0	0	226	0	0	0	0	259
8	9.6	5	4	0	0	468	0	0	0	0	1268
9	11.0	4	0	0	0	118	0	0	0	0	466
10	11.4	1	2	0	0	0	691	0	0	0	241
11	12.1	0	3	0	0	23	255	0	0	0	372
12	13.1	0	1	0	0	0	0	0	0	0	0
13	13.9	5	2	0	0	207	428	0	0	0	2047
14	14.3	0	0	0	0	23	56	0	0	0	276
15	15.3	0	2	0	0	0	67	0	0	0	268
16	16.2	0	0	0	0	0	483	128	0	0	2105
17	16.8	0	0	0	0	0	100	99	0	0	578
18	17.4	0	0	0	0	0	0	12	0	0	28
19	17.7	0	0	0	0	0	0	41	0	0	112
20	18.0	0	2	0	0	23	0	101	0	0	395
21	18.8	0	1	0	0	0	0	21	0	0	80

APPENDIX 3-21 (Cont'd)

ACOUSTIC CENSUS FISH DENSITIES FOR WESLEYVILLE GS A , 1978

RESEARCH SITE C1 - SEPTEMBER 21, 1978 - 24:00-2:10

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 1

				Count/10 000 m³						
INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	5.1	7	1	5160 †	0	0	0	0	0		10578
2	6.4	0	0	4311	0	0	0	0	0		14872
3	7.6	0	1	1441	11070	0	0	0	0		11852
4	8.8	0	0	142	6138	0	0	0	0		11309
5	10.4	0	0	0	2048	0	0	0	0		6963
6	12.0	5	4	359	69	2037	0	0	0		3749
7	13.0	0	1	215	115	442	0	0	0		2204
8	14.0	0	2	358	115	505	0	0	0		3381
9	14.7	0	0	430	23	368	0	0	0		3173
10	15.2	0	1	142	69	122	0	0	0		1332
11	15.5	0	0	430	115	22	589	0	0		2591
12	16.1	0	0	358	115	33	278	0	0		2329
13	17.3	0	0	574	23	44	188	0	0		2996
14	17.7	0	0	215	115	22	124	0	0		1742
15	18.5	0	1	143	46	66	54	0	0		1206
16	19.4	0	1	215	69	33	19	205	0		1426
17	19.5	0	1	429	69	22	0	120	0		2140
18	19.3	0	0	646	184	11	71	0	0		3048
19	19.2	0	1	359	138	22	25	0	0		2176
20	20.5	0	0	359	184	88	77	109	0		3000
21	22.7	0	0	215	92	11	19	80	0		1640

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 2

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	23.2	0	0	358	92	22	0	25	0		1988
2	21.8	0	0	287	161	33	38	49	0		2215
3	20.8	0	1	430	115	0	6	42	0		2279
4	20.0	0	0	215	115	0	13	208	0		1569
5	19.7	0	0	431	92	0	19	93	0		2228
6	19.7	0	0	286	0	0	13	0	0		1196
7	19.0	0	0	502	23	22	39	0	0		2344
8	18.5	0	0	215	92	11	109	0	0		1648
9	17.7	0	0	287	115	11	62	0	0		1819
10	16.8	0	0	359	0	22	82	0	0		1571
11	15.7	0	0	143	115	77	459	0	0		1684
12	15.3	0	0	358	0	33	438	0	0		1695
13	15.1	0	0	214	0	89	0	0	0		1212
14	14.9	0	0	358	69	81	0	0	0		2019
15	14.7	0	2	429	138	253	0	0	0		3216
16	13.8	0	2	358	92	396	0	0	0		2908
17	12.5	0	0	143	46	1398	0	0	0		2783
18	11.4	0	0	286	487	7896	0	0	0		5855
19	9.5	1	0	215	2050	0	0	0	0		5110
20	8.0	0	1	71	7150	0	0	0	0		7434
21	7.6	2	3	430	1574	0	0	0	0		10360

LEGEND:

† Density in first data logging interval for depth shell 3-7 m below transducer

MM Missing Bottoms

EE Extended Echoes

Density = -1: too shallow to obtain sample

* Fewer than 60 transmissions in interval

** Outside normal sample grid

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 3

Count/10 000 m^3

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	23.2	0	1		287	69	11	13	95	0	1900
2	22.5	0	0		431	115	22	6	65	0	2520
3	21.7	0	0		645	115	66	6	45	0	3451
4	21.0	0	0		502	161	0	31	83	0	2942
5	20.7	0	0		502	138	55	38	57	0	3026
6	20.0	0	0		863	161	44	19	103	0	4445
7	19.2	0	6		503	46	44	39	0	0	2528
8	18.8	0	1		358	138	66	54	0	0	2453
9	18.5	0	0		287	138	55	115	0	0	2322
10	18.2	0	0		287	46	0	142	0	0	1793
11	17.2	0	2		358	46	22	5	0	0	1818
12	15.7	0	2		358	138	22	82	0	0	2133
13	15.4	0	1		286	161	0	370	0	0	1917
14	15.3	0	0		142	46	77	424	0	0	1187
15	14.7	0	1		215	115	221	0	0	0	2137
16	14.2	0	1		71	23	391	0	0	0	1646
17	13.7	0	0		431	69	584	0	0	0	3576
18	12.7	0	0		503	276	2140	0	0	0	6754
19	11.8	0	2		143	230	4332	0	0	0	4957
20	10.2	0	1		214	2799	0	0	0	0	9952
21	8.6	0	0		431	5293	0	0	0	0	10192

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 4

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19	23.	30.	COUNT/10000M*M
1	23.0	0	1		574	230	22	6	12	0	3376
2	22.2	0	0		359	92	11	140	38	0	2559
3	21.1	0	2		430	46	11	13	185	0	2388
4	20.4	0	0		431	69	0	13	193	0	2322
5	19.6	0	1		143	46	44	19	705	0	1430
6	19.7	0	0		143	23	22	32	186	0	1000
7	19.8	0	0		431	69	22	19	451	0	2524
8	19.3	0	0		215	69	22	0	205	0	1285
9	18.9	0	0		143	0	33	53	0	0	910
10	18.2	0	0		645	46	0	51	0	0	2927
11	17.7	0	0		431	115	11	328	0	0	3130
12	17.7	0	0		143	23	33	250	0	0	1470
13	16.5	0	0		286	0	55	236	0	0	1718
14	15.3	0	1		287	23	99	3176	0	0	2588
15	15.2	0	0		431	23	133	0	0	0	2348
16	14.5	0	0		359	92	374	0	0	0	3131
17	13.5	0	0		143	23	963	0	0	0	3023
18	12.5	0	0		358	23	1896	0	0	0	4462
19	12.0	0	1		431	161	3137	0	0	0	5348
20	10.5	0	0		71	2000	0	0	0	0	7184
21	9.1	0	2		287	5168	0	0	0	0	12042

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 5

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	7.0	0	0	0	0	0	0	0	0	0	0
2	8.0	0	1	71	5021	0	0	0	0	0	5305
3	8.5	0	0	359	5701	0	0	0	0	0	9987
4	9.5	0	3	0	2979	0	0	0	0	0	7298
5	10.9	0	1	287	1158	0	0	0	0	0	5664
6	12.0	0	4	287	161	1680	0	0	0	0	3472
7	13.4	0	3	1006	184	672	0	0	0	0	6372
8	14.0	0	0	215	23	375	0	0	0	0	2095
9	14.7	4	3	142	115	265	0	0	0	0	2021
10	16.0	0	1	286	115	55	574	0	0	0	2398
11	17.7	0	2	430	161	22	103	0	0	0	2730
12	18.5	0	1	143	115	22	138	0	0	0	1603
13	19.0	0	0	215	184	0	59	0	0	0	1832
14	19.4	0	0	574	138	0	18	821	0	0	3248
15	19.5	0	0	286	115	22	0	296	0	0	1854
16	20.0	0	0	1006	253	44	12	278	0	0	5538
17	20.5	0	0	863	115	11	19	80	0	0	4147
18	20.9	0	0	862	23	22	0	160	0	0	3932
19	21.5	0	2	1581	299	33	19	21	0	0	7781
20	22.3	0	0	934	253	11	6	74	0	0	5060
21	22.0	0	0	789	115	66	32	16	0	0	4056

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 6

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	24.9	0	0	575	138	0	0	8	46		2971
2	24.0	0	0	359	184	44	31	4	42		2527
3	23.2	0	0	215	46	55	19	25	0		1440
4	22.9	0	1	359	69	11	26	22	0		1945
5	21.8	0	1	647	207	22	19	38	0		3686
6	21.2	0	2	1295	230	0	6	52	0		6235
7	20.7	0	1	359	69	0	0	57	0		1806
8	19.9	0	0	574	138	11	32	44	0		3059
9	18.9	0	1	143	161	22	40	0	0		1460
10	18.0	0	0	1007	230	22	83	0	0		5280
11	16.7	0	0	718	92	11	86	0	0		3430
12	15.8	0	0	1006	230	11	877	0	0		5689
13	15.5	0	1	1078	69	33	972	0	0		5206
14	14.8	0	0	430	23	204	0	0	0		2587
15	13.5	0	0	287	46	317	0	0	0		2124
16	12.5	0	0	575	115	693	0	0	0		3799
17	11.7	0	0	647	207	1045	0	0	0		4147
18	10.6	0	0	287	576	0	0	0	0		3250
19	9.3	0	0	215	402	0	0	0	0		1968
20	8.6	0	0	1366	1344	0	0	0	0		7681
21	8.1	0	0	2445	2942	0	0	0	0		13163

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 7

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	Count/10 000 m^3 15.	19.	23.	30.	COUNT/10000M*M
1	6.3	0	0		2419	0	0	0	0	0	7982
2	7.4	0	0		1874	3060	0	0	0	0	8873
3	8.0	2	0		1439	127	0	0	0	0	5889
4	9.0	5	2		280	334	0	0	0	0	1828
5	11.6	0	0		1005	765	587	0	0	0	5061
6	12.6	0	0		358	69	236	0	0	0	2085
7	13.0	0	0		719	115	175	0	0	0	3694
8	14.5	0	0		287	92	146	0	0	0	2019
9	15.5	0	0		718	115	0	704	0	0	3684
10	16.1	0	0		1365	115	22	85	0	0	6101
11	17.0	0	1		1078	138	0	86	0	0	5036
12	18.2	0	0		790	299	0	17	0	0	4409
13	19.1	0	0		1149	460	0	13	0	0	6488
14	19.8	0	2		359	345	11	0	0	0	2860
15	20.6	0	0		71	184	11	13	96	0	1269
16	21.2	0	0		791	299	0	0	33	0	4432
17	21.7	0	0		790	23	22	13	6	0	3408
18	22.0	0	0		1582	138	11	0	12	0	6960
19	22.2	0	0		1077	460	0	13	42	0	6336
20	22.9	0	0		431	161	11	25	0	0	2512
21	23.2	0	0		575	276	44	51	21	0	3868

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 8

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	23.8	0	0		861	529	0	0	29	129	5785
2	23.7	0	0		359	322	11	6	8	157	2933
3	22.7	0	0		647	368	0	13	41	0	4263
4	21.5	0	0		1223	736	22	0	7	0	7941
5	20.9	0	0		719	506	0	6	0	0	4924
6	20.3	0	0		503	299	11	26	0	0	3356
7	19.4	0	0		646	299	11	0	102	0	3864
8	18.8	0	0		791	230	0	49	0	0	4267
9	18.2	0	0		71	23	11	26	0	0	501
10	17.5	0	1		1222	207	0	81	0	0	5914
11	16.5	0	0		1223	506	33	0	0	0	7048
12	15.3	0	0		863	115	33	285	0	0	4129
13	14.4	0	1		719	138	109	0	0	0	3798
14	13.6	0	1		1222	161	55	0	0	0	5677
15	12.7	0	1		791	115	300	0	0	0	4149
16	11.1	0	1		215	336	0	0	0	0	2204
17	10.5	0	0		718	218	0	0	0	0	3645
18	9.7	2	0		71	38	0	0	0	0	388
19	8.5	0	2		287	1590	0	0	0	0	3533
20	8.7	0	0		502	501	0	0	0	0	2859
21	8.0	0	0		215	2134	0	0	0	0	2994
22	6.0	0	0		694	0	0	0	0	0	2082 **

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 SEP TRANSECT# 9

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	5.8	0	0	398	0	0	0	0	0		1114
2	7.6	0	0	883	588	0	0	0	0		3884
3	8.2	0	0	431	306	0	0	0	0		2106
4	8.4	0	0	791	960	0	0	0	0		4508
5	9.7	2	2	1150	231	0	0	0	0		5235
6	11.0	3	2	1079	336	0	0	0	0		5660
7	12.2	0	2	791	184	311	0	0	0		4288
8	13.1	0	2	1654	368	167	0	0	0		8447
9	14.2	2	2	790	230	0	0	0	0		4080
10	15.2	1	1	1439	184	0	482	0	0		6588
11	16.2	0	0	1079	230	11	98	0	0		5402
12	17.3	0	0	1366	46	22	37	0	0		5821
13	18.0	0	0	1222	46	0	18	0	0		5125
14	18.3	0	1	935	368	0	24	0	0		5292
15	18.8	0	0	1654	230	33	70	0	0		7930
16	20.1	0	0	1151	230	0	0	17	0		5542
17	20.8	0	0	1150	69	11	6	21	0		4981
18	21.3	0	0	1151	299	0	0	40	0		5892
19	22.5	0	0	1437	506	33	19	40	0		8118
20	23.7	0	0	1366	207	11	13	8	137		6515
21	23.9	0	2	718	69	44	12	41	91		3617

ACOUSTIC CENSUS FISH DENSITIES FOR WESLEYVILLE GS A, 1978
RESEARCH SITE C1 - NOVEMBER 15, 1978 - 10:15-12:00

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 1

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	5.1	0	2	1746†	0	0	0	0	0		3579
2	6.5	0	0	728	0	0	0	0	0		2548
3	7.2	2	3	144	0	0	0	0	0		576
4	8.2	5	1	0	868	0	0	0	0		1041
5	9.0	0	0	0	112	0	0	0	0		229
6	11.1	6	6	0	50	532	0	0	0		279
7	13.1	5	3	0	0	48	0	0	0		100
8	14.5	0	1	0	0	40	0	0	0		138
9	15.6	0	0	0	0	0	0	0	0		0
10	16.4	0	0	0	0	0	0	0	0		0
11	16.7	0	3	0	0	0	54	0	0		89
12	17.5	0	1	71	0	0	0	0	0		284
13	18.5	5	1	0	0	0	7	0	0		24
14	18.6	1	1	0	0	0	0	0	0		0
15	19.8	0	2	0	0	0	0	0	0		0
16	21.5	10	3	0	0	0	0	42	0		105
17	23.2	0	1	0	0	0	0	0	0		0
18	24.0	0	0	0	0	0	0	0	28		26
19	22.8	0	0	0	0	0	0	0	0		0
20	21.7	0	0	0	0	0	0	0	0		0
21	21.3	0	3	0	0	0	0	0	0		0

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 2

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	24.0	0	1	0	0	0	0	0	28		26
2	24.0	0	0	0	0	0	0	0	0		0
3	23.2	0	0	0	0	0	0	4	0		16
4	22.4	0	0	0	0	0	0	0	0		0
5	21.7	0	0	0	0	0	0	0	0		0
6	20.8	0	0	0	0	0	0	0	0		0
7	20.0	0	0	0	0	0	0	0	0		0
8	19.2	0	0	0	0	0	0	0	0		0
9	19.5	0	1	0	0	0	0	0	0		0
10	19.0	0	0	0	0	0	12	0	0		48
11	17.5	0	0	0	0	0	0	0	0		0
12	16.2	0	0	0	0	11	26	0	0		73
13	15.2	9	0	0	0	0	0	0	0		0
14	14.7	0	1	0	0	0	0	0	0		0
15	13.6	0	8	0	0	0	0	0	0		0
16	12.5	0	3	0	0	34	0	0	0		52
17	11.6	0	0	0	0	451	0	0	0		293
18	10.4	0	1	0	29	0	0	0	0		98
19	8.6	0	0	0	74	0	0	0	0		122
20	7.7	0	0	0	594	0	0	0	0		415
21	6.9	0	8	74	0	0	0	0	0		292

LEGEND:

† Density in first data logging interval for depth shell 3-7 m below transducer

MM Missing Bottoms

EE Extended Echoes

Density = -1: too shallow to obtain sample

* Fewer than 60 transmissions in interval

** Outside normal sample grid

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 3

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	6.3	0	0	0	0	0	0	0	0	0	0
2	7.4	0	0	0	0	0	0	0	0	0	0
3	8.3	0	0	71	0	0	0	0	0	0	284
4	9.2	2	1	0	0	0	0	0	0	0	0
5	10.4	0	1	0	0	0	0	0	0	0	0
6	11.4	0	1	71	0	300	0	0	0	0	404
7	12.3	5	0	0	0	127	0	0	0	0	165
8	13.3	0	0	0	0	132	0	0	0	0	303
9	14.0	0	0	0	0	31	0	0	0	0	94
10	15.2	0	0	0	0	0	0	0	0	0	0
11	15.6	0	0	0	0	0	105	0	0	0	63
12	16.5	0	0	0	0	0	0	0	0	0	0
13	17.5	0	0	0	0	0	22	0	0	0	53
14	19.0	0	0	0	0	0	0	0	0	0	0
15	19.5	0	0	0	0	0	0	181	0	0	81
16	20.0	0	0	0	0	0	0	0	0	0	0
17	20.8	0	0	0	0	0	0	0	0	0	0
18	21.3	0	0	0	0	0	0	0	0	0	0
19	22.2	0	0	0	0	0	0	11	0	0	34
20	22.9	0	0	0	0	0	0	0	0	0	0
21	23.5	0	0	0	0	0	0	0	0	27	13

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 4

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	23.0	0	0	0	0	0	0	0	4	0	16
2	21.8	0	0	0	0	0	0	0	0	0	0
3	21.2	0	0	0	0	0	0	0	0	0	0
4	21.5	0	0	0	0	0	0	0	14	0	35
5	21.0	0	0	0	0	0	0	0	9	0	18
6	20.0	0	1	0	0	0	0	0	0	0	0
7	18.7	0	0	71	0	0	0	0	0	0	284
8	18.0	0	0	0	0	0	0	0	0	0	0
9	17.2	0	1	0	0	0	0	0	0	0	0
10	16.0	0	0	0	0	0	0	0	0	0	0
11	15.4	0	1	0	0	0	326	0	0	0	130
12	15.1	0	1	71	0	0	0	0	0	0	284
13	14.9	0	1	0	0	46	0	0	0	0	177
14	14.1	0	0	0	0	45	0	0	0	0	139
15	12.9	0	0	0	23	85	0	0	0	0	249
16	12.0	0	0	0	23	0	0	0	0	0	92
17	11.0	0	1	0	70	0	0	0	0	0	276
18	9.5	0	0	0	0	0	0	0	0	0	0
19	8.1	0	0	0	226	0	0	0	0	0	259
20	7.6	0	0	0	0	0	0	0	0	0	0
21	6.4	0	0	0	0	0	0	0	0	0	0

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 5

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19	23.	30.	COUNT/10000M*M
1	5.6	0	0	579	0	0	0	0	0	1534	
2	7.2	0	0	0	0	0	0	0	0	0	
3	8.0	0	0	0	0	0	0	0	0	0	
4	8.4	0	1	0	0	0	0	0	0	0	
5	8.6	0	4	0	0	0	0	0	0	0	
6	10.2	0	1	0	0	0	0	0	0	0	
7	11.5	0	0	0	0	0	0	0	0	0	
8	13.0	10	6	0	0	0	0	0	0	0	
9	13.7	5	0	0	23	53	0	0	0	237	
10	14.2	0	0	0	0	0	0	0	0	0	
11	15.0	1	5	0	0	0	0	0	0	0	
12	15.1	0	0	0	0	0	0	0	0	0	
13	16.5	1	0	0	0	0	40	0	0	60	
14	17.6	0	0	0	0	0	10	0	0	25	
15	17.8	0	0	0	0	0	0	0	0	0	
16	18.2	0	0	0	0	0	0	0	0	0	
17	18.8	5	1	0	0	0	0	0	0	0	
18	19.5	0	1	0	0	0	0	0	0	0	
19	19.3	0	4	0	0	0	0	0	0	0	
20	19.0	0	0	0	0	0	0	0	0	0	
21	18.9	0	0	0	0	0	0	0	0	0	

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 6

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	21.3	0	0	0	0	0	0	0	0	0	
2	20.9	0	1	0	0	0	0	70	0	133	
3	20.5	0	0	0	0	0	0	0	0	0	
4	19.8	0	1	0	0	0	0	0	0	0	
5	19.5	0	1	0	0	0	19	0	0	76	
6	18.8	0	0	0	0	0	0	0	0	0	
7	18.3	0	0	0	0	0	0	0	0	0	
8	18.0	4	1	0	0	0	0	0	0	0	
9	17.7	5	1	0	0	0	0	0	0	0	
10	16.9	0	3	0	0	0	0	0	0	0	
11	15.8	3	0	0	0	0	0	0	0	0	
12	14.9	0	2	71	0	0	0	0	0	284	
13	14.4	0	14	0	0	0	0	0	0	0	
14	13.3	1	3	0	0	0	0	0	0	0	
15	13.7	0	0	0	0	54	0	0	0	145	
16	13.2	0	0	0	0	0	0	0	0	0	
17	11.5	0	0	0	0	0	0	0	0	0	
18	10.1	0	0	71	32	0	0	0	0	383	
19	8.8	0	2	0	0	0	0	0	0	0	
20	8.5	0	1	0	174	0	0	0	0	252	
21	7.7	0	0	0	0	0	0	0	0	0	

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 7

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	6.7	0	0	0	0	0	0	0	0	0	0
2	7.5	0	0	0	556	0	0	0	0	0	278
3	8.6	0	0	0	0	0	0	0	0	0	0
4	9.5	0	0	0	44	0	0	0	0	0	107
5	10.2	0	0	0	0	0	0	0	0	0	0
6	11.2	5	0	0	0	174	0	0	0	0	43
7	12.5	0	0	0	0	0	0	0	0	0	0
8	13.6	0	0	0	0	36	0	0	0	0	95
9	14.1	0	0	0	0	15	0	0	0	0	46
10	14.4	0	2	0	0	81	0	0	0	0	271
11	15.2	0	0	0	0	0	0	0	0	0	0
12	15.5	0	3	71	0	0	193	0	0	0	380
13	17.2	0	0	0	0	0	0	0	0	0	0
14	18.2	0	1	0	0	0	34	0	0	0	108
15	18.8	0	0	0	0	0	0	0	0	0	0
16	19.6	5	5	0	0	0	36	0	0	0	129
17	19.0	1	0	0	0	0	6	0	0	0	24
18	19.4	0	1	0	0	0	45	0	0	0	180
19	20.0	0	0	0	0	0	0	63	0	0	59
20	20.2	1	0	0	0	0	0	0	0	0	0
21	19.8	0	0	0	0	0	0	0	0	0	0

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 8

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	21.7	0	0	71	0	0	0	26	0	354	
2	21.4	0	0	0	0	0	0	0	0	0	
3	21.3	0	0	0	0	0	0	48	0	110	
4	21.0	0	0	0	0	0	6	9	0	42	
5	20.7	0	2	0	0	0	0	0	0	0	
6	19.7	0	0	0	0	0	6	170	0	142	
7	18.5	0	0	0	0	0	14	0	0	49	
8	18.2	0	0	0	0	0	0	0	0	0	
9	17.5	0	0	0	0	11	11	0	0	70	
10	16.5	0	0	0	0	22	0	0	0	88	
11	15.6	0	0	0	0	0	107	0	0	64	
12	16.0	0	1	0	0	0	0	0	0	0	
13	15.9	0	0	0	0	11	69	0	0	106	
14	15.3	0	0	0	0	0	0	0	0	0	
15	14.5	0	0	0	0	0	0	0	0	0	
16	13.4	0	1	0	0	64	0	0	0	150	
17	12.0	0	0	71	0	0	0	0	0	284	
18	11.5	0	0	0	0	0	0	0	0	0	
19	10.6	0	0	0	0	0	0	0	0	0	
20	9.2	0	0	0	0	0	0	0	0	0	
21	8.2	0	3	0	215	0	0	0	0	258	

APPENDIX 3-21 (Cont'd)

ACOUSTIC CENSUS FISH DENSITIES FOR WESLEYVILLE GSA, 1978
RESEARCH SITE C1 - NOVEMBER 15, 1978 - 20:45-22:30

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 1

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	5.1	0	0	1625 †	0	0	0	0	0	0	3412
2	7.1	2	2	831	0	0	0	0	0	0	3324
3	8.0	5	0	0	134	0	0	0	0	0	134
4	8.6	5	1	0	74	0	0	0	0	0	122
5	10.4	6	1	0	177	0	0	0	0	0	592
6	12.5	1	1	0	0	35	0	0	0	0	52
7	14.0	0	1	0	0	32	0	0	0	0	96
8	15.5	0	1	0	0	33	172	0	0	0	218
9	16.3	0	0	0	0	0	0	0	0	0	0
10	16.9	0	0	0	0	0	0	0	0	0	0
11	18.0	0	1	0	0	22	18	0	0	0	142
12	18.7	0	0	0	0	0	28	0	0	0	102
13	19.4	0	1	0	0	0	6	0	0	0	24
14	20.7	0	0	0	0	11	0	0	0	0	44
15	22.2	0	0	0	0	0	12	5	0	0	63
16	23.2	0	0	0	0	0	0	25	0	0	100
17	22.8	0	0	0	0	33	6	8	0	0	186
18	21.9	0	0	0	0	0	0	54	0	0	156
19	21.2	0	0	0	0	22	0	17	0	0	124
20	21.2	0	0	0	23	0	0	48	0	0	200
21	22.9	0	2	0	0	0	0	8	0	0	31

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 2

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	22.8	5	1	0	0	0	0	9	0	0	34
2	24.0	0	0	0	0	0	12	0	0	0	48
3	24.2	0	0	0	0	0	0	0	21	0	26
4	23.7	0	1	0	0	0	0	0	0	0	0
5	23.0	0	2	0	0	0	0	4	0	0	15
6	22.3	0	0	0	0	0	18	0	0	0	72
7	21.7	0	0	0	0	11	0	59	0	0	203
8	20.2	0	0	0	0	0	0	67	0	0	77
9	19.5	0	0	0	0	0	0	0	0	0	0
10	19.1	0	0	0	0	0	0	0	0	0	0
11	19.1	0	0	0	0	0	18	0	0	0	72
12	18.5	0	0	0	0	0	0	0	0	0	0
13	17.1	0	2	0	0	0	0	0	0	0	0
14	15.9	0	2	0	0	44	36	0	0	0	206
15	14.7	0	1	0	0	84	0	0	0	0	315
16	13.5	0	0	71	0	78	0	0	0	0	479
17	11.9	0	0	0	0	0	0	0	0	0	0
18	10.1	0	2	0	94	0	0	0	0	0	296
19	8.5	0	0	0	0	0	0	0	0	0	0
20	7.3	2	0	0	387	0	0	0	0	0	116
21	6.2	0	1	319	0	0	0	0	0	0	1020

LEGEND:

† Density in first data logging interval for depth shell 3-7 m below transducer

MM Missing Bottoms

EE Extended Echoes

Density = -1: too shallow to obtain sample

* Fewer than 60 transmissions in interval

** Outside normal sample grid

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 3

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	6.6	0	1	259	0	0	0	0	0	0	932
2	7.7	0	0	0	585	0	0	0	0	0	409
3	8.8	0	0	0	136	0	0	0	0	0	238
4	10.4	0	0	0	0	0	0	0	0	0	0
5	11.7	0	0	0	0	0	0	0	0	0	0
6	13.1	0	0	0	0	0	0	0	0	0	0
7	14.3	0	0	0	0	70	0	0	0	0	230
8	14.7	0	6	0	0	0	0	0	0	0	0
9	15.7	0	3	0	0	11	181	0	0	0	170
10	17.4	0	0	71	0	0	11	0	0	0	310
11	19.0	0	0	0	0	0	6	0	0	0	24
12	19.5	0	1	0	0	0	0	406	0	0	203
13	19.3	0	0	0	0	11	19	58	0	0	140
14	19.6	0	0	0	0	0	0	100	0	0	59
15	20.7	0	0	0	0	11	0	103	0	0	213
16	22.1	0	1	71	23	0	0	62	0	0	568
17	22.3	0	0	0	0	0	0	15	0	0	50
18	22.9	0	1	0	0	0	6	0	0	0	24
19	23.6	0	0	71	0	11	0	0	45	0	354
20	24.3	0	2	0	0	22	0	0	20	0	114
21	24.1	0	2	0	23	0	0	0	111	0	214

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 4

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	25.4	0	0	0	0	0	0	0	10	24	**
2	25.2	0	0	0	0	0	0	0	45	101	**
3	25.1	0	0	0	0	0	0	12	12	73	
4	24.4	0	2	0	0	0	0	0	76	106	
5	22.8	0	0	0	0	0	0	0	0	0	
6	22.0	0	0	0	0	0	6	12	0	59	
7	21.0	0	0	0	0	22	12	92	0	320	
8	20.7	0	0	0	23	0	0	33	0	148	
9	19.7	0	0	0	0	55	0	79	0	279	
10	19.1	0	0	0	0	0	6	0	0	24	
11	18.3	0	1	0	0	0	88	0	0	294	
12	17.1	0	0	0	0	0	13	0	0	27	
13	15.9	0	0	0	0	0	37	0	0	31	
14	15.1	5	0	0	0	33	0	0	0	132	
15	14.5	0	5	0	0	65	0	0	0	227	
16	13.5	0	0	0	0	101	0	0	0	247	
17	12.4	0	0	71	0	0	0	0	0	284	
18	11.6	0	0	0	0	270	0	0	0	175	
19	10.4	0	1	0	29	0	0	0	0	98	
20	10.4	0	1	0	960	0	0	0	0	3264	
21	7.6	0	0	0	0	0	0	0	0	0	
22	6.2	0	0	0	0	0	0	0	0	0	
23	4.6	1	1	0	0	0	0	0	0	0	

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 5

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	6.1	0	0		114	0	0	0	0	0	347
2	7.2	0	0		0	0	0	0	0	0	0
3	7.9	0	2		0	805	0	0	0	0	684
4	8.2	0	0		0	103	0	0	0	0	128
5	9.7	0	0		0	0	0	0	0	0	0
6	11.9	0	1		0	0	312	0	0	0	280
7	13.0	0	2		0	0	0	0	0	0	0
8	13.9	0	0		0	0	34	0	0	0	96
9	14.6	5	3		0	0	12	0	0	0	43
10	15.1	0	0		0	0	0	0	0	0	0
11	15.9	7	3		0	0	0	370	0	0	314
12	17.0	8	1		0	0	0	13	0	0	29
13	17.8	0	2		0	0	0	0	0	0	0
14	18.5	0	1		0	0	0	0	0	0	0
15	19.4	0	0		0	0	0	23	0	0	100
16	19.6	0	0		0	0	11	0	33	0	63
17	19.7	0	0		0	23	0	13	31	0	164
18	20.7	0	0		0	0	22	0	0	0	88
19	21.5	0	1		0	0	0	0	0	0	0
20	21.5	0	0		0	0	0	0	21	0	53
21	22.5	0	0		0	0	11	0	13	0	90

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 6

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19	23.	30.	COUNT/10000M*M
1	23.8	0	2		0	0	11	0	25	153	266 **
2	23.7	0	1		0	23	0	0	0	59	133
3	23.2	2	1		0	23	0	0	0	0	92
4	21.7	0	0		0	0	0	0	19	0	50
5	20.6	0	0		0	0	0	0	72	0	115
6	20.0	0	0		71	0	22	0	74	0	449
7	19.5	0	0		0	0	0	0	0	0	0
8	19.0	0	1		0	0	0	13	0	0	51
9	18.5	0	0		0	0	0	0	0	0	0
10	18.1	0	2		0	0	0	8	0	0	24
11	17.5	0	2		0	0	0	123	0	0	311
12	16.8	0	0		0	0	0	0	0	0	0
13	15.5	0	0		0	0	11	114	0	0	101
14	14.4	0	1		0	0	0	0	0	0	0
15	13.9	0	0		0	0	65	0	0	0	188
16	13.0	0	0		0	0	0	0	0	0	0
17	12.8	0	1		0	0	29	0	0	0	52
18	12.2	0	0		0	0	0	0	0	0	0
19	9.9	0	1		0	35	0	0	0	0	101
20	8.9	0	0		0	0	0	0	0	0	0
21	8.5	0	0		71	241	0	0	0	0	657
22	7.5	0	0		73	233	0	0	0	0	408

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 7

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	6.9	5	1	0	0	0	0	0	0	0	0
2	8.1	0	0	0	0	0	0	0	0	0	0
3	9.4	0	0	0	140	0	0	0	0	0	329
4	10.5	0	0	0	0	0	0	0	0	0	0
5	11.4	0	0	0	0	0	0	0	0	0	0
6	12.2	0	0	0	0	0	0	0	0	0	0
7	13.5	0	0	0	0	40	0	0	0	0	98
8	14.5	0	0	0	23	106	0	0	0	0	457
9	15.0	5	0	0	0	44	0	0	0	0	176
10	15.7	0	0	0	0	0	0	0	0	0	0
11	17.5	0	3	0	0	0	55	0	0	0	140
12	18.7	0	1	0	0	0	21	0	0	0	77
13	18.8	0	0	0	0	0	14	0	0	0	52
14	18.9	0	0	0	0	0	19	0	0	0	74
15	19.3	0	2	0	0	0	12	350	0	0	170
16	19.7	0	1	0	0	0	0	56	0	0	39
17	19.7	0	0	0	23	0	0	0	0	0	92
18	20.0	0	0	71	0	0	0	0	0	0	284
19	21.5	0	0	0	0	22	0	21	0	0	141
20	23.5	0	0	0	0	0	0	17	144	0	140
21	24.7	0	0	0	0	22	0	4	0	0	104

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 8

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	24.0	0	1	0	0	0	0	20	56		133 **
2	23.0	0	2	0	0	0	0	0	0		0 **
3	22.0	0	0	71	0	0	0	28	0		369 **
4	21.8	0	0	0	0	22	12	6	0		152
5	21.5	0	0	0	0	0	0	44	0		107
6	21.1	0	1	0	0	0	0	70	0		146
7	21.0	0	0	0	0	0	0	9	0		17
8	20.7	5	3	0	0	0	0	11	0		18
9	19.8	0	0	0	0	0	0	147	0		117
10	18.8	0	5	0	0	0	28	0	0		105
11	18.5	0	0	0	0	0	7	0	0		24
12	17.4	0	0	0	0	0	22	0	0		52
13	16.2	0	2	0	0	0	49	0	0		61
14	15.9	0	0	0	0	0	0	0	0		0
15	15.6	0	0	0	0	0	0	0	0		0
16	15.1	0	0	0	0	0	0	0	0		0
17	14.4	0	0	0	0	0	0	0	0		0
18	13.2	0	0	0	0	0	0	0	0		0
19	11.9	0	0	0	0	63	0	0	0		56
20	11.3	0	0	0	0	1015	0	0	0		304
21	10.7	0	0	0	26	0	0	0	0		96
22	9.0	0	0	0	165	0	0	0	0		338
23	7.8	0	0	0	0	0	0	0	0		0
24	[illegible]	0	0	0	0	0	0	0	0		0

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 9

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	7.4	0	0	,	0	0	0	0	0	0	0
2	8.4	0	0	0	188	0	0	0	0	0	253
3	8.4	0	1	0	94	0	0	0	0	0	126
4	9.5	1	1	0	129	0	0	0	0	0	322
5	11.0	0	0	0	97	0	0	0	0	0	388
6	12.4	0	0	0	0	81	0	0	0	0	109
7	13.4	0	2	0	0	0	0	0	0	0	0
8	14.4	0	0	0	0	13	0	0	0	0	44
9	15.5	0	1	0	0	0	141	0	0	0	63
10	16.5	0	0	0	0	0	19	0	0	0	29
11	18.0	0	0	0	23	0	9	0	0	0	118
12	18.7	0	0	0	0	0	0	0	0	0	0
13	19.3	0	0	0	0	0	0	399	0	0	139
14	20.3	0	0	71	0	0	0	75	0	0	381
15	21.0	0	0	0	0	0	0	9	0	0	17
16	21.5	0	4	0	0	0	0	111	0	0	271
17	22.0	0	0	71	23	0	0	0	0	0	376
18	22.7	0	0	0	0	0	0	4	0	0	15
19	23.5	0	0	0	0	0	0	0	56	0	28
20	23.3	0	0	0	23	0	0	20	0	0	172
21	23.1	0	0	0	0	0	12	0	0	0	48

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 NOV TRANSECT# 9

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	8.6	0	0	0	446	0	0	0	0	0	735
2	8.5	0	0	0	0	0	0	0	0	0	0
3	9.0	0	0	0	174	0	0	0	0	0	339
4	10.5	0	2	71	0	0	0	0	0	0	284
5	11.4	0	1	0	46	0	0	0	0	0	184
6	12.4	0	1	0	0	40	0	0	0	0	54
7	13.6	0	1	0	0	0	0	0	0	0	0
8	14.4	5	1	0	0	54	0	0	0	0	183
9	15.2	0	0	0	0	11	0	0	0	0	44
10	15.7	0	0	0	0	0	0	0	0	0	0
11	17.0	0	0	0	0	0	29	0	0	0	56
12	17.8	0	0	0	0	0	50	0	0	0	140
13	18.5	0	0	0	0	0	22	0	0	0	75
14	19.2	0	1	0	0	0	0	0	0	0	0
15	19.7	0	0	0	0	0	0	238	0	0	178
16	20.7	0	0	0	0	0	0	0	0	0	0
17	21.2	0	0	0	0	0	0	25	0	0	54
18	21.4	0	0	0	0	0	0	15	0	0	36
19	21.7	0	1	0	0	0	0	13	0	0	35
20	22.3	0	0	0	0	0	0	10	0	0	33
21	23.5	0	0	0	0	0	0	4	29	0	29

ACOUSTIC CENSUS FISH DENSITIES FOR WESLEYVILLE GS A, 1978 -
RESEARCH SITE C1 - DECEMBER 18, 1978 - 12:30-14:20

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 1

INTERVAL	AVE-DEPTH	MM	EE	COUNT/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	6.0	0	0	239†	0	0	0	0	0	0	717
2	7.2	0	4	225	2677	0	0	0	0	0	1569
3	8.2	1	1	0	763	0	0	0	0	0	915
4	8.8	2	3	0	0	0	0	0	0	0	0
5	10.3	2	2	0	148	0	0	0	0	0	488
6	12.2	0	5	0	46	357	0	0	0	0	612
7	14.2	0	1	0	0	0	0	0	0	0	0
8	15.5	0	0	0	46	0	0	0	0	0	184
9	16.5	0	0	0	0	0	0	0	0	0	0
10	16.7	0	1	0	0	0	0	0	0	0	0
11	16.9	0	0	0	0	0	0	0	0	0	0
12	18.6	5	0	0	0	0	21	0	0	0	75
13	19.3	0	4	0	0	0	0	0	0	0	0
14	19.8	0	0	0	0	0	0	0	0	0	0
15	21.0	0	0	0	0	0	0	0	0	0	0
16	22.5	0	0	71	0	0	0	0	0	0	284
17	23.1	0	0	0	0	0	0	0	12	0	48
18	22.1	0	0	0	0	0	0	0	0	0	0
19	21.5	0	0	0	0	0	0	0	14	0	34
20	21.8	1	3	0	0	0	0	0	12	0	33
21	22.2	0	1	0	0	0	0	0	0	0	0

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 2

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	21.5	3	1	0	0	0	0	0	45	0	110 **
2	21.5	0	2	0	0	0	0	0	0	0	0
3	22.5	0	0	0	0	0	0	0	0	0	0
4	23.1	0	0	0	0	0	0	0	0	0	0
5	23.6	0	0	0	0	0	0	0	0	23	13
6	22.7	0	0	0	0	0	0	0	0	0	0
7	21.5	0	1	0	0	0	0	0	14	0	35
8	20.0	0	0	0	0	0	0	0	0	0	0
9	19.0	2	1	0	0	0	0	0	0	0	0
10	18.6	0	2	0	0	0	0	0	0	0	0
11	18.8	5	4	0	0	0	0	0	0	0	0
12	18.1	0	0	71	0	0	0	0	0	0	284
13	17.0	0	0	0	0	0	0	57	0	0	116
14	16.1	0	0	0	0	0	0	0	0	0	0
15	14.8	0	3	0	0	0	0	0	0	0	0
16	13.7	0	0	0	0	0	0	0	0	0	0
17	12.8	0	0	0	0	0	118	0	0	0	212
18	11.9	0	0	0	0	0	0	0	0	0	0
19	10.1	0	0	71	62	0	0	0	0	0	479
20	8.5	0	0	0	86	0	0	0	0	0	124
21	7.7	0	0	0	585	0	0	0	0	0	409
22	6.6	1	2	1040	0	0	0	0	0	0	3744
23	5.5	0	10	2571	0	0	0	0	0	0	6427 **

LEGEND:

† Density in first data logging interval for depth shell 3-7 m below transducer

MM Missing Bottoms

EE Extended Echoes

Density = -1: too shallow to obtain sample

* Fewer than 60 transmissions in interval

** Outside normal sample grid

APPENDIX 3-2 1 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 3

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	Count/10 000 m³ 15.	19.	23.	30.	COUNT/10000M*M
1	4.7	1	1		0	0	0	0	0	0	0
2	5.9	0	0		122	0	0	0	0	0	359
3	7.1	0	2		0	0	0	0	0	0	0
4	8.0	0	0		0	632	0	0	0	0	663
5	9.2	0	0		71	151	0	0	0	0	616
6	10.6	0	0		0	0	0	0	0	0	0
7	11.7	0	0		0	0	0	0	0	0	0
8	12.7	0	0		0	0	125	0	0	0	212
9	14.0	0	1		0	0	0	0	0	0	0
10	14.7	0	0		0	0	48	0	0	0	180
11	15.4	5	1		0	0	55	0	0	0	220
12	16.2	0	0		0	0	0	0	0	0	0
13	17.3	0	0		0	0	0	0	0	0	0
14	19.0	0	0		0	0	0	0	0	0	0
15	19.7	0	0		0	0	0	0	133	0	99
16	19.5	0	0		0	0	0	0	0	0	0
17	19.7	0	0		0	0	0	0	0	0	0
18	20.3	0	0		0	0	0	0	0	0	0
19	21.3	0	1		0	0	0	0	0	0	0
20	22.3	0	0		0	0	0	0	0	0	0
21	23.1	3	12		0	0	0	0	0	0	0

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 4

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	23.2	1	0		71	0	0	0	4	0	300
2	22.5	0	0		0	0	0	0	0	0	0
3	21.4	0	1		0	0	0	0	15	0	36
4	21.2	0	2		0	0	0	0	51	0	112
5	20.8	0	0		0	0	0	0	10	0	18
6	20.0	0	0		0	0	0	0	37	0	38
7	19.7	0	2		0	0	0	0	30	0	19
8	18.1	0	0		0	0	0	16	0	0	49
9	16.9	0	0		0	0	0	0	0	0	0
10	16.0	0	0		0	0	0	0	0	0	0
11	15.1	0	0		0	0	0	0	0	0	0
12	14.9	0	0		0	0	22	0	0	0	85
13	14.6	0	0		0	0	0	0	0	0	0
14	13.5	0	0		0	0	19	0	0	0	48
15	12.6	0	0		0	23	167	0	0	0	359
16	11.9	0	1		0	0	126	0	0	0	113
17	11.0	2	2		0	0	0	0	0	0	0
18	9.7	0	0		0	343	0	0	0	0	943
19	8.5	0	0		0	240	0	0	0	0	371
20	7.3	0	0		0	415	0	0	0	0	124
21	5.9	0	0		246	0	0	0	0	0	713

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 5

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m^3 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	5.1	0	0	0	0	0	0	0	0	0	0
2	5.7	0	0	0	0	0	0	0	0	0	0
3	7.0	0	0	0	0	0	0	0	0	0	0
4	7.9	0	1	0	0	0	0	0	0	0	0
5	8.6	0	0	0	0	0	0	0	0	0	0
6	10.0	0	0	0	0	0	0	0	0	0	0
7	11.5	0	2	0	46	0	0	0	0	0	184
8	12.5	0	0	71	0	210	0	0	0	0	609
9	13.3	0	0	0	0	110	0	0	0	0	252
10	14.4	0	1	0	0	0	0	0	0	0	0
11	15.2	1	1	0	0	0	0	0	0	0	0
12	15.4	1	5	0	0	0	0	0	0	0	0
13	15.4	3	1	0	0	0	244	0	0	0	97
14	16.0	0	0	0	0	0	0	0	0	0	0
15	17.2	0	0	0	0	0	74	0	0	0	166
16	18.3	0	0	0	0	0	0	0	0	0	0
17	19.0	1	2	0	0	0	12	0	0	0	48
18	20.2	0	0	0	0	0	0	48	0	0	57
19	21.3	0	2	0	0	0	0	0	0	0	0
20	21.7	0	1	0	0	0	0	0	0	0	0
21	21.3	0	0	0	0	0	0	0	0	0	0

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 6

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	20.7	0	0	0	0	0	0	0	110	0	187
2	19.4	0	0	0	0	0	0	0	0	0	0
3	19.4	5	3	0	0	0	0	0	0	0	0
4	19.8	0	0	0	0	0	0	0	0	0	0
5	20.0	0	1	0	0	0	0	0	58	0	58
6	19.4	0	1	0	0	0	0	19	102	0	116
7	18.8	0	0	0	0	0	0	13	0	0	49
8	18.2	0	1	0	0	0	0	0	0	0	0
9	18.2	3	3	0	0	0	0	33	0	0	107
10	17.3	0	5	0	0	0	0	12	0	0	27
11	15.7	0	0	0	0	0	0	0	0	0	0
12	15.2	0	0	0	0	0	0	0	0	0	0
13	14.6	0	1	0	0	0	0	0	0	0	0
14	14.2	0	0	0	0	43	0	0	0	0	137
15	13.8	0	0	0	0	69	0	0	0	0	193
16	13.1	0	0	0	23	49	0	0	0	0	194
17	13.1	0	1	0	0	0	0	0	0	0	0
18	12.8	0	1	0	46	87	0	0	0	0	340
19	11.3	0	0	0	0	0	0	0	0	0	0
20	9.6	0	0	0	0	0	0	0	0	0	0
21	8.8	0	0	0	0	0	0	0	0	0	0

APPENDIX 3-21 (Cont'd)

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 7

INTERVAL	AVE-DEPTH	MM	EE	Count/10 000 m³ 3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	8.5	0	0	0	0	0	0	0	0	0	0
2	9.5	0	0	0	0	0	0	0	0	0	0
3	10.1	0	0	0	0	0	0	0	0	0	0
4	11.1	0	1	0	0	294	0	0	0	0	29
5	12.9	0	0	71	0	57	0	0	0	0	389
6	14.0	0	0	0	0	0	0	0	0	0	0
7	14.5	0	0	0	0	49	0	0	0	0	173
8	14.4	5	1	0	0	41	0	0	0	0	139
9	15.3	0	0	0	0	0	0	0	0	0	0
10	16.7	0	1	0	0	0	36	0	0	0	59
11	18.0	0	2	0	0	0	0	0	0	0	0
12	19.0	0	0	0	0	0	0	0	0	0	0
13	19.0	0	0	0	0	0	0	0	0	0	0
14	19.0	5	9	0	0	11	19	0	0	0	120
15	19.2	0	1	0	0	0	0	0	0	0	0
16	19.9	1	0	71	0	0	0	0	0	0	284
17	20.2	0	0	0	0	0	0	0	15	0	18
18	20.3	0	0	0	0	0	0	0	0	0	0
19	21.0	0	0	0	0	0	0	0	0	0	0
20	22.4	0	2	0	0	0	0	0	0	0	0
21	24.0	0	0	0	0	0	0	0	0	28	26

ACOUSTIC SURVEY AT: ONTC1 78 DEC TRANSECT# 8

INTERVAL	AVE-DEPTH	MM	EE	3.	7.	11.	15.	19.	23.	30.	COUNT/10000M*M
1	23.1	0	1	0	0	0	0	0	0	0	0 **
2	22.2	0	1	0	0	0	0	0	0	0	0 **
3	21.8	0	0	71	0	0	0	0	0	0	284 **
4	21.8	0	0	0	0	0	0	0	24	0	67 **
5	21.1	0	0	0	0	0	0	0	0	0	0
6	21.2	2	1	0	0	0	0	0	67	0	147
7	21.2	0	1	0	0	0	0	0	0	0	0
8	21.0	0	0	0	0	0	0	0	9	0	18
9	20.5	0	5	0	0	0	0	0	0	0	0
10	19.5	0	2	0	0	0	0	0	90	0	40
11	19.3	0	1	0	0	0	0	0	204	0	61
12	18.5	0	2	0	0	0	0	7	0	0	24
13	17.8	0	3	71	0	0	0	0	0	0	284
14	17.0	0	0	0	0	0	0	0	0	0	0
15	16.2	0	0	0	0	0	0	0	0	0	0
16	16.1	0	0	0	0	0	0	0	0	0	0
17	15.8	0	0	0	0	0	0	0	0	0	0
18	14.9	0	0	0	0	0	0	0	0	0	0
19	14.0	0	0	0	0	0	0	0	0	0	0
20	13.2	0	0	0	0	0	0	0	0	0	0
21	12.0	0	0	0	0	0	0	0	0	0	0
22	11.3	0	0	0	0	0	0	0	0	0	0
23	10.2	0	0	0	0	0	0	0	0	0	0
24	9.1	0	1	0	0	0	0	0	0	0	0
[illegible]	[illegible]	0	0	0	[illegible]	0	0	0	0	[illegible]	126

APPENDIX 3-2.1 (Cont'd)

ACOUSTIC SURVEY AT: ONTCI 78 DEC TRANSECT# 9

INTERVAL	AVE-DEPTH	NM	EE	Count/10 000 m^3 3.	7.	11.	15.	19	23.	30.	COUNT/10000M*M
1	8.2	0	0	0	0	0	0	0	0	0	0
2	8.4	0	0	0	0	88	0	0	0	0	123
3	8.5	0	0	0	0	0	0	0	0	0	0
4	10.2	0	1	0	0	0	0	0	0	0	0
5	10.7	0	0	0	0	0	0	0	0	0	0
6	11.6	0	0	0	0	0	380	0	0	0	227
7	13.1	0	0	0	0	0	0	0	0	0	0
8	14.3	0	1	0	0	0	0	0	0	0	0
9	15.0	0	0	0	0	0	0	0	0	0	0
10	15.7	0	0	0	0	0	0	182	0	0	127
11	16.5	0	0	0	0	0	0	0	0	0	0
12	17.3	0	1	0	0	0	0	0	0	0	0
13	18.5	0	0	0	0	0	0	0	0	0	0
14	19.0	0	0	0	0	0	0	0	0	0	0
15	19.7	0	0	0	0	0	0	0	0	0	0
16	20.5	0	0	0	0	0	0	0	0	0	0
17	21.0	0	0	0	0	0	0	0	0	0	0
18	21.1	0	0	0	0	0	0	0	0	0	0
19	21.4	1	0	0	0	0	0	0	30	0	72
20	22.0	1	0	0	0	0	0	0	5	0	15
21	22.3	0	0	0	0	0	0	0	0	0	0

APPENDIX 3-22

SUMMARY OF VERTICAL DISTRIBUTIONS
NUMBER OF FISH/10 000 m^3 - AUGUST 1 - DECEMBER 18
WESLEYVILLE GS A - 1978

APPENDIX 3-22

SUMMARY OF VERTICAL DISTRIBUTION
NUMBER OF FISH/10 000 m³ - AUGUST 1 - DAY
WESLEYVILLE GS A - 1978

AVERAGE BOTTOM DEPTH FROM DENSITY LISTING - M

DEPTH SHELL - M ↓	5-7	9-11	13-15	17-19	21-23	25-30	
	14	13	19	27	9	0	No Intervals
3 - 7	1536.36	375.92	0	2.63	0	0	
	2544.18	858.43	0	13.66	0	0	Mean Density St Dev
7 - 11		984.46	300.21	0	0	0	
		927.95	369.23	0	0	0	Mean Density St Dev
11 - 15			965.53	99.63	0	0	
			445.90	147.03	0	0	Mean Density St Dev
15 - 19				332.19	33.56	0	
				166.57	33.22	0	Mean Density St Dev
19 - 23					740.67	0	
					259.18	0	Mean Density St Dev
23 - 30						0	
						0	Mean Density St Dev

ONLY BLOCKED DATA REPRESENTS INTERVALS CONTAINING THE BOTTOM
(DUE TO RESTRICTION OF AVERAGE DEPTH RANGES INCLUDED IN ANALYSIS)

APPENDIX 3-22 (Cont'd)

SUMMARY OF VERTICAL DISTRIBUTION
NUMBER OF FISH/10 000 m³-AUG 1 - NIGHT
WESLEYVILLE GS A - 1978

AVERAGE BOTTOM DEPTH FROM DENSITY LISTING - M

DEPTH SHELL - M ↓	5-7	9-11	13-15	17-19	21-23	25-30	
	17	21	25	25	5	0	No Intervals
3 - 7	2658.29	211.29	82.76	186.00	523.40	0	
	1749.49	154.77	96.07	117.53	330.50	0	Mean Density St Dev
7 - 11		939.00	120.52	140.76	222.80	0	
		932.01	80.85	76.09	118.72	0	Mean Density St Dev
11 - 15			759.92	127.52	115.20	0	
			385.58	71.57	110.40	0	Mean Density St Dev
15 - 19				557.00	131.80	0	
				181.43	43.29	0	Mean Density St Dev
19 - 23					815.40	0	
					245.12	0	Mean Density St Dev
23 - 30						0	
						0	Mean Density St Dev

ONLY BLOCKED DATA REPRESENTS INTERVALS CONTAINING THE BOTTOM
(DUE TO RESTRICTION OF AVERAGE DEPTH RANGES INCLUDED IN ANALYSIS)

APPENDIX 3-22 (Cont'd)

SUMMARY OF VERTICAL DISTRIBUTION
NUMBER OF FISH/10 000 m^3 - SEPT 20 - DAY
WESLEYVILLE GS A - 1978

AVERAGE BOTTOM DEPTH FROM DENSITY LISTING - M

DEPTH SHELL - M ↓	5-7	9-11	13-15	17-19	21-23	25-30	
	15	14	26	27	1	0	No Intervals
3 - 7	165.867	56.2857	2.7308	5.2593	0	0	
	218.297	143.733	13.924	18.948	-	0	Mean Density St Dev
7 - 11		76.2143	8.8462	0.8519	0	0	
		134.244	40.666	4.426	-	0	Mean Density St Dev
11 - 15			106.2308	4.4815	155.00	0	
			149.496	11.520	-	0	Mean Density St Dev
15 - 19				51.1481	58.00	0	
				44.743	-	0	Mean Density St Dev
19 - 23					37.00	0	
					-	0	Mean Density St Dev
23 - 30							Mean Density St Dev

ONLY BLOCKED DATA REPRESENTS INTERVALS CONTAINING THE BOTTOM
(DUE TO RESTRICTION OF AVERAGE DEPTH RANGES INCLUDED IN ANALYSIS)

APPENDIX 3-22 (Cont'd)

SUMMARY OF VERTICAL DISTRIBUTION
NUMBER OF FISH/10 000 m³ - SEPT 20 - NIGHT
WESLEYVILLE GS A - 1978

AVERAGE BOTTOM DEPTH FROM DENSITY LISTING - M

DEPTH SHELL - M ↓	5-7	9-11	13-15	17-19	21-23	25-30	
	6	13	20	27	22	0	No Intervals
3 - 7	2163.67	353.38	495.20	539.89	803.41	0	
	2173.16	384.52	399.57	437.38	425.08	0	Mean Density St Dev
7 - 11		1547.08	106.95	120.96	227.91	0	
		1501.76	84.84	94.31	171.52	0	Mean Density St Dev
11 - 15			322.30	20.37	19.00	0	
			231.58	19.70	18.65	0	Mean Density St Dev
15 - 19				87.59	19.41	0	
				72.55	30.62	0	Mean Density St Dev
19 - 23					41.73	0	
					38.62	0	Mean Density St Dev
23 - 30						0	
						0	Mean Density St Dev

ONLY BLOCKED DATA REPRESENTS INTERVALS CONTAINING THE BOTTOM
(DUE TO RESTRICTION OF AVERAGE DEPTH RANGES INCLUDED IN ANALYSIS)

APPENDIX 3-22 (Cont'd)

SUMMARY OF VERTICAL DISTRIBUTION
NUMBER OF FISH/10 000 m³ - NOV 15 - DAY
WESLEYVILLE GS A - 1978

AVERAGE BOTTOM DEPTH FROM DENSITY LISTING - M

DEPTH SHELL - M ↓	5-7	9-11	13-15	17-19	21-23	25-30	
	7	12	23	30	21	0	No Intervals
3 - 7	446.714	11.8333	3.0870	4.7333	3.3810	0	
	648.375	27.637	14.805	18.013	15.493	0	Mean Density St Dev
7 - 11		14.5833	1.000	0.00	0.00	0	
		23.643	4.796	0.00	0.00	0	Mean Density St Dev
11 - 15			30.3913	0.3667	0.00	0	
			34.381	2.008	0.00	0	Mean Density St Dev
15 - 19				7.4667	0.00	0	
				12.990	0.00	0	Mean Density St Dev
19 - 23					9.9048	0	
					14.380	0	Mean Density St Dev
23 - 30						0	
						0	Mean Density St Dev

ONLY BLOCKED DATA REPRESENTS INTERVALS CONTAINING THE BOTTOM
(DUE TO RESTRICTION OF AVERAGE DEPTH RANGES INCLUDED IN ANALYSIS)

APPENDIX 3-22 (Cont'd)

SUMMARY OF VERTICAL DISTRIBUTION
NUMBER OF FISH/10 000 m^3 - NOV 15 - NIGHT
WESLEYVILLE GS A - 1978

AVERAGE BOTTOM DEPTH FROM DENSITY LISTING - M

DEPTH SHELL - M ↓	5-7	9-11	13-15	17-19	21-23	25-30	
	8	12	19	23	28	3	No Intervals
3 - 7	289.63	0	3.74	3.09	7.61	0	
	554.39	0	16.29	14.81	22.36	0	Mean Density St Dev
7 - 11		140.58	1.21	1.00	2.46	0	Mean Density
		265.09	5.28	4.80	7.24	0	St Dev
11 - 15			39.16	0.96	4.32	0	Mean Density
			37.14	4.59	9.15	0	St Dev
15 - 19				20.96	2.14	0	Mean Density
				29.86	4.68	0	St Dev
19 - 23					22.79	4.00	Mean Density
					27.43	6.93	St Dev
23 - 30						22.33	Mean Density
						19.66	St Dev

ONLY BLOCKED DATA REPRESENTS INTERVALS CONTAINING THE BOTTOM
(DUE TO RESTRICTION OF AVERAGE DEPTH RANGES INCLUDED IN ANALYSIS)

APPENDIX 3-22 (Cont'd)

SUMMARY OF VERTICAL DISTRIBUTION
NUMBER OF FISH/10 000 m^3 - DEC 18-DAY
WESLEYVILLE GS A - 1978

AVERAGE BOTTOM DEPTH FROM DENSITY LISTING - M

DEPTH SHELL - M ↓	5-7	9-11	13-15	17-19	21-23	25-30	
	9	14	24	24	29	0	No Intervals
3 - 7	468.67	10.14	0	5.92	4.90	0	
	854.94	25.78	0	20.05	18.31	0	Mean Density St Dev
7 - 11		50.29	0.96	0	0	0	
		100.31	4.70	0	0	0	Mean Density St Dev
11 - 15			18.75	0.46	0	0	
			29.42	2.25	0	0	Mean Density St Dev
15 - 19				8.63	0	0	
				16.61	0	0	Mean Density St Dev
19 - 23					9.55	0	
					17.66	0	Mean Density St Dev
23 - 30						0	
						0	Mean Density St Dev

ONLY BLOCKED DATA REPRESENTS INTERVALS CONTAINING THE BOTTOM
(DUE TO RESTRICTION OF AVERAGE DEPTH RANGES INCLUDED IN ANALYSIS)

APPENDIX 3-23

FREQUENCY OF OCCURRENCE AND ESTIMATED
BIOMASS OF WESLEYVILLE FISH SPECIES
STOMACH CONTENTS
WESLEYVILLE GS 'A' - 1978

FREQUENCY OF OCCURRENCE AND ESTIMATED BIOMASS OF WESLEYVILLE FISH SPECIES STOMACH CONTENTS WESLEYVILLE GS 'A' - 1978

CAT NUMBER	SPECIES	DATE NETTED	WT (GMS)	STOMACH SPECIES	NO OF ORGANISMS	PER CENT
WS78000435	ALE	06/01/1978				
WS78000382	ALE	06/12/1978				
WS78000383	ALE					
WS78000384	ALE					
WS78000385	ALE					
WS78000386	ALE					
WS78000387	ALE					
WS78000388	ALE					
WS78000389	ALE					
WS78000390	ALE					
WS78000391	ALE					
WS78000392	ALE					
WS78000393	ALE					
WS78000394	ALE					
WS78000395	ALE					
WS78000396	ALE					
WS78000397	ALE					
WS78000398	ALE					
WS78000399	ALE					
WS78000400	ALE					
WS78000401	ALE					
WS78000402	ALE					
WS78000403	ALE					
WS78000404	ALE					
WS78000405	ALE					
WS78000406	ALE					
WS78000407	ALE					
WS78000408	ALE					
WS78000409	ALE					
WS78000410	ALE					
WS78000411	ALE					
WS78000412	ALE					
WS78000413	ALE					
WS78000414	ALE					
WS78000415	ALE					
WS78000416	ALE					
WS78000417	ALE					
WS78000418	ALE					
WS78000419	ALE					
WS78000420	ALE					
WS78000421	ALE					
WS78000422	ALE					
WS78000423	ALE					
WS78000424	ALE					
WS78000425	ALE					
WS78000426	ALE					
WS78000427	ALE					
WS78000456	ALE	07/11/1978				
WS78000308	ALE	07/14/1978	.857	UNIDENTIFIED INSECTS		
WS78000309	ALE					
WS78000310	ALE					
WS78000311	ALE					
WS78000312	ALE					
				GAMMARUS (FRAGMENTS)		50
				CHIRONOMIDAE (LARVA)	1	50
WS78000313	ALE		.869	COPEPODS	2	1
				UNIDENTIFIED INSECTS		99
WS78000314	ALE		.826	EURYTEMORA AFFINIS	6	8
				CYCLOPS B THOMASI	22	30
				ALONA SP	1	1
				UNIDENTIFIED		60
				HARPACTALOIDS	1	1
WS78000434	ALE	07/14/1978				
WS78000437	ALE	07/14/1978				
WS78000438	ALE	07/14/1978				
WS78000439	ALE					
WS78000444	ALE	07/14/1978				
WS78000445	ALE					
WS78000446	ALE	07/14/1978				
WS78000447	ALE					
WS78000448	ALE					
WS78000452	ALE	07/14/1978				
WS78000453	ALE					
WS78000454	ALE					
WS78000133	BB	05/11/1978				
WS78000137	BB	05/17/1978				
WS78000138	BB		1.498	COTTUS SP	1	100
WS78000147	BB	05/17/1978	2.818	DIGESTED FISH		100
WS78000139	BB	05/18/1978	.861	PLECOPTERA SP	1	100
WS78000140	BB					
WS78000141	BB					
WS78000142	BB		.960	ALOSA PSEUDOHARENGUS	1	100
WS78000143	BB					
WS78000144	BB					
WS78000145	BB		.958	UNIDENTIFIED		100
WS78000086	BB	06/01/1978				
WS78000123	BB	06/01/1978	.418	GASTEROSTEUS ACULEATUS	1	99
				GAMMARUS SP	1	1
WS78000124	BB		.228	FISH EGGS	50	100
WS78000125	BB		.638	FISH EGGS	78	100
WS78000126	BB		2.438	FISH EGGS	900	100
WS78000127	BB					
WS78000128	BB					
WS78000231	BB	07/11/1978	.158	DIGESTED FISH		100
WS78000232	BB					
WS78000233	BB		.678	FISH EGGS	158	100
WS78000234	BB		.648	FISH EGGS	138	100
WS78000235	BB		1.968	DIGESTED FISH		100
WS78000236	BB					
WS78000237	BB		1.938	DIGESTED FISH		100
WS78000238	BB					
WS78000294	BB	07/11/1978				
WS78000301	BB	08/22/1978	.858	CHIRONOMINI (LARVA)	1	5
				CHYDORUS SPP	2	
				BOSMINA LONGIROSTRIS	15	4
				EURYTEMORA AFFINIS	37	13
				CHIRONOMINI (PUPA)	1	28
				ORTHOCLADIINAE (LARVA)	1	15
				DAPHNIA G MENDOTAE	1	
				ALONA SPP	6	1
WS78000382	BB		.848	CYCLOPS B THOMASI	125	48
				TANYTARSINI (LARVA)	1	5
				CHYDORUS SPP	3	1
				ORTHOCLADIINAE (LARVAE)	3	15
				BOSMINA SPP	25	4
				EURYTEMORA AFFINIS	250	65

APPENDIX 3-23 (Cont'd)

CAT NUMBER	SPECIES	DATE NETTED	WT (GMS)	STOMACH SPECIES	NO OF ORGANISMS	PER CENT
				ORTHOCLADIINAE (PUPA)	1	5
WS78000303	BB		.010	CYCLOPS B THOMASI	40	5
				UNIDENTIFIED		50
				BOSMINA LONGIROSTRIS	2	1
				ORTHOCLADIINAE (LARVAE)	4	10
				CYCLOPS B THOMASI	37	14
				EURYTEMORA AFFINIS	37	14
				ORTHOCLADIINAE (PUPA)	1	10
				ALONA SPP	2	1
WS78000304	BB					
WS78000305	BB					
WS78000306	BB		.097	CHIRONOMIDAE (LARVAE)	10	100
WS78000307	BB		.028	EURYTEMORA AFFINIS	88	77
				ALONA SPP	3	2
				BOSMINA LONGIROSTRIS	1	1
				ORTHOCLADIINAE (LARVAE)	4	5
				UNIDENTIFIED		10
				CHIRONOMIDAE (PUPAE)	1	5
WS78000132	RB	05/11/1978				
WS78000135	RB	05/17/1978	.640	DIGESTED FISH	1	50
				BELOSTOMA SP	1	50
WS78000148	RB	05/18/1978				
WS78000149	RB					
WS78000130	RB	06/01/1978	1.480	COLEOPTERA	2	100
WS78000075	RB	06/02/1978	.620	GASTEROSTEUS ACULEATUS	1	100
WS78000044	RBT	06/01/1978	.020	CHIRONOMIDAE (PUPAE)	35	70
				COLEOPTERA (ADULT)	2	30
WS78000034	RBT	06/02/1978	.110	COLEOPTERA	2	5
				CHIRONOMIDAE (PUPAE)	80	95
WS78000428	RBT	07/14/1978				
WS78000430	RBT	07/14/1978				
WS78000451	RBT	07/14/1978				
WS78000457	RBT	07/14/1978				
WS78000458	RBT					
WS78000300	RBT	08/22/1978	.070	TANYTARSINI (PUPAE)	250	96
				ORTHOCLADIINAE (PUPAE)	30	3
				TANYTARSINI (LARVA)	1	1
WS78000296	RBT	09/11/1978	2.240	CHIRONOMIDAE (PUPAE)	2	1
				ALOSA PSEUDOHARENGUS	25	99
WS78000278	RBT	10/19/1978	.130	COPEPODS	2	1
				CHIRONOMIDAE (LARVAE)	4	10
				CHIRONOMIDAE (PUPAE)	35	40
				UNIDENTIFIED		8
				GAMMARUS SP	18	40
				EURYTEMORA AFFINIS	1	1
WS78000279	RBT		.270	CHIRONOMIDAE (PUPAE)	300	40
				GAMMARUS SP	22	50
				CHIRONOMIDAE (LARVAE)	5	6
				ASELLUS SP	2	4
WS78000299	RBT	11/07/1978	.020	GAMMARUS SP	11	60
				TRICHOPTERA (PUPA)	1	5
				APHID	1	5
				UNIDENTIFIED		30
WS78000153	RWF	05/24/1978	11.350	AGRYPNIA SPP (LARVAE)	198	100
WS78000154	RWF	05/24/1978	13.740	AGRYPNIA SPP (LARVAE)	210	99
				PHYSA SP	1	1
WS78000157	RWF	05/24/1978	7.280	AGRYPNIA SPP (LARVAE)	120	100
WS78000155	SCH	05/25/1978	7.980	ALOSA PSEUDOHARENGUS	1	25
				OSMERUS MORDAX	3	75
WS78000063	SEM	06/01/1978	.049	UNIDENTIFIED		50
				CHIRONOMIDAE (PUPA)	1	50
WS78000015	SEM	06/02/1978				
WS78000016	SEM	06/02/1978				
WS78000031	SEM	06/02/1978				
WS78000058	SEM	06/02/1978	.012	CHIRONOMIDAE	20	99
				COPEPOD	1	1
WS78000060	SEM	06/07/1978	.041	CHIRONOMIDAE (PUPAE)	4	80
				UNIDENTIFIED		19
				COPEPOD	1	1
WS78000035	SMT	06/02/1978	.031			
WS78000429	SMT	07/14/1978				
WS78000436	SMT	07/14/1978				
WS78000440	SMT	07/14/1978				
WS78000441	SMT	07/14/1978				
WS78000442	SMT					
WS78000443	SMT					
WS78000449	SMT	07/14/1978				
WS78000450	SMT	07/14/1978				
WS78000455	SMT	07/14/1978				
WS78000081	STS	06/01/1978				
WS78000082	STS					
WS78000083	STS		.010	CHYDORUS SPP	1	
				ORTHOCLADIINAE (PUPAE)	3	8
				ORTHOCLADIINAE (LARVAE)	3	4
				CYCLOPS SPP	5	1
				CHIRONOMINI (PUPAE)	1	3
WS78000035	STS	06/01/1978	.041	EURYTEMORA AFFINIS	450	84
				CHIRONOMIDAE (PUPAE)	2	98
WS78000037	STS		.051	UNIDENTIFIED		10
				UNIDENTIFIED		98
WS78000039	STS		.020	COPEPODS	1	2
				UNIDENTIFIED		60
				ORTHOCLADIINAE (LARVAE)	1	4
				COPEPODS	10	1
				CHYDORUS SPP	7	1
				ORTHOCLADIINAE (PUPAE)	9	34
WS78000041	STS		.053	UNIDENTIFIED		100
WS78000042	STS		.036	CHIRONOMIDAE (PUPAE)	5	100
WS78000043	STS		.018	BOSMINA LONGIROSTRIS	2	1
				CYCLOPS B THOMASI	85	44
				EURYTEMORA AFFINIS	63	45
				CHIRONOMIDAE (PUPAE)	1	10
WS78000064	STS	06/01/1978	.010	ORTHOCLADIINAE (LARVA)	1	2
				CHIRONOMINI (LARVA)	1	2
				CHIRONOMIDAE (PUPAE)	35	96
WS78000065	STS		.066	ORTHOCLADIINAE (PUPAE)	9	89
				CHIRONOMINI (PUPA)	1	10
				COPEPOD	1	1
WS78000004	STS	06/02/1978	.010	COPEPODS	7	3
				EUBOSMINA COREGONI	1	1
				ORTHOCLADIINAE (PUPA)	1	10
				CHYDORUS SPP	1	1
				UNIDENTIFIED		75
				OLIGOCHAETA	2	10

APPENDIX 3-23 (Cont'd)

CRT NUMBER	SPECIES	DATE NETTED	WT (GMS)	STOMACH SPECIES	NO OF ORGANISMS	PER CENT
WS78000005	STS					
WS78000006	STS	06/02/1978				
WS78000007	STS		.024	COPEPODS	4	10
				UNIDENTIFIED		90
WS78000008	STS	06/02/1978	.030	CHIRONOMIDAE (PUPAE)	35	100
WS78000009	STS					
WS78000010	STS		.018	ORTHOCLADIINAE	40	99
				COPEPOD	1	1
WS78000011	STS	06/02/1978				
WS78000012	STS					
WS78000013	STS		.014	UNIDENTIFIED		40
				ORTHOCLADIINAE	2	60
WS78000014	STS					
WS78000017	STS	06/02/1978				
WS78000018	STS		.020	CYCLOPS B THOMASI	162	40
				BOSMINA LONGIROSTRIS	1	
				CHYDORUS SPP	4	
				EURYTEMORA AFFINIS	262	60
WS78000019	STS		.040	UNIDENTIFIED		40
				COPEPODS	28	45
				CHIRONOMIDAE (LARVAE)	2	10
				BOSMINA LONGIROSTRIS	1	1
WS78000020	STS	06/02/1978	.006	COPEPODS	45	40
				BOSMINA LONGIROSTRIS	1	1
				CYCLOPS B THOMASI	25	19
				UNIDENTIFIED		40
WS78000021	STS	06/02/1978				
WS78000022	STS					
WS78000023	STS					
WS78000024	STS					
WS78000025	STS	06/02/1978	.044	COPEPODS	3	10
				UNIDENTIFIED		90
WS78000026	STS					
WS78000027	STS					
WS78000028	STS	06/02/1978	.010	CHYDORUS SPP	6	6
				HOLOPEDIUM GIBBERUM	1	
				COPEPODS	27	40
				UNIDENTIFIED		50
				EURYTEMORA AFFINIS	3	2
				ALONA SP	1	
				BOSMINA LONGIROSTRIS	2	2
WS78000029	STS		.010	CYCLOPS B THOMASI	37	30
				CHYDORUS SPP	22	10
				COPEPODS	47	45
				UNIDENTIFIED		5
				EUCYCLOPS AGILIS	1	1
				EURYTEMORA AFFINIS	9	8
				TROPOCYCLOPS PRASINUS	2	1
WS78000030	STS					
WS78000032	STS	06/02/1978	.038	COPEPODS	12	2
				ORTHOCLADIINAE (PUPAE)	35	98
WS78000033	STS	06/02/1978				
WS78000045	STS	06/02/1978				
WS78000046	STS		.018	COPEPODS	3	1
				CHIRONOMIDAE (PUPAE)	19	80
				UNIDENTIFIED		19
WS78000047	STS					
WS78000052	STS		.036	CHIRONOMIDAE (PUPAE)	38	99
				BOSMINA LONGIROSTRIS	1	1
WS78000053	STS					
WS78000054	STS					
WS78000038	STS	06/07/1978	.003	CHIRONOMIDAE (PUPAE)	13	90
				CHYDORUS SPP	2	1
				UNIDENTIFIED		8
				COPEPODS	3	1
WS78000061	STS	06/07/1978	.001	UNIDENTIFIED		100
WS78000062	STS					
WS78000064	STS	06/07/1978	.042	ORTHOCLADIINAE (PUPAE)	3	20
				UNIDENTIFIED		80
WS78000134	WS	05/12/1978				
WS78000154	WS	05/24/1978				
WS78000068	WS	06/02/1978				
WS78000230	WS	07/11/1978				
WS78000255	WS	07/11/1978	.260	DIGESTED FISH		100
WS78000256	WS	07/11/1978	1.440	DIGESTED FISH	4	100
			.022	UNIDENTIFIED		99
				CYCLOPS B THOMASI	1	1
WS78000152	WS	05/17/1978				
WS78000076	WS	06/01/1978				
WS78000077	WS					
WS78000078	WS					
WS78000079	WS					
WS78000080	WS		.030	CHIRONOMIDAE (PUPAE)	6	15
				CHIRONOMIDAE (LARVAE)	26	85
WS78000081	WS		.070	CHIRONOMIDAE (LARVAE)	6	10
				CHIRONOMIDAE (PUPAE)	60	90
WS78000082	WS		.040	CHIRONOMIDAE (LARVAE)	28	100
WS78000083	WS					
WS78000084	WS		.020	CHIRONOMIDAE (LARVAE)	18	96
				CHIRONOMIDAE (PUPA)	1	4
WS78000085	WS					
WS78000088	WS	06/01/1978				
WS78000089	WS		.015	CHIRONOMIDAE (LARVA)	1	100
WS78000090	WS	06/01/1978	.005	TRICHOPTERA (PUPA)	1	100
WS78000091	WS		.020	PISIDIUM SP	6	50
				GYRAULUS SP	1	10
				CHIRONOMIDAE (LARVAE)	10	40
WS78000092	WS	06/01/1978				
WS78000093	WS					
WS78000094	WS		.340	COLEOPTERA	1	
				CHIRONOMIDAE (LARVAE)	99	100
WS78000095	WS					
WS78000096	WS					
WS78000097	WS					
WS78000099	WS	06/01/1978				
WS78000100	WS					
WS78000101	WS					
WS78000102	WS					
WS78000103	WS					
WS78000104	WS					
WS78000105	WS					
WS78000106	WS					
WS78000107	WS					
WS78000108	WS					
WS78000109	WS					

APPENDIX B-23 (Cont'd)

CAT NUMBER	SPECIES	DATE NETTED	WT (GMS)	STOMACH SPECIES	NO OF ORGANISMS	PER CENT
WS78000110	WS					
WS78000111	WS					
WS78000112	WS					
WS78000113	WS		.020	CHIRONOMIDAE (LARVAE)	45	100
WS78000114	WS		.024	CHIRONOMIDAE (LARVA)	1	100
WS78000116	WS		.080	CHIRONOMIDAE (PUPAE)	1	2
				CHIRONOMIDAE (LARVAE)	50	98
WS78000117	WS		.016			
WS78000118	WS		.030	CHIRONOMIDAE (LARVAE)	19	100
WS78000119	WS					
WS78000120	WS					
WS78000121	WS					
WS78000122	WS					
WS78000069	WS	06/02/1978				
WS78000070	WS	06/02/1978				
WS78000071	WS					
WS78000072	WS					
WS78000073	WS					
WS78000074	WS					
WS78000239	WS	07/11/1978				
WS78000240	WS					
WS78000241	WS					
WS78000242	WS					
WS78000243	WS					
WS78000244	WS					
WS78000245	WS					
WS78000246	WS					
WS78000247	WS					
WS78000248	WS	07/11/1978				
WS78000249	WS					
WS78000250	WS					
WS78000251	WS					
WS78000252	WS					
WS78000253	WS					
WS78000257	WS	07/11/1978				
WS78000258	WS		.020	DIGESTED FISH		100
WS78000259	WS					
WS78000260	WS					
WS78000261	WS					
WS78000262	WS					
WS78000263	WS					
WS78000264	WS					
WS78000431	WS	07/14/1978				
WS78000131	YP	05/11/1978		CHIRONOMIDAE (PUPA)	1	100
WS78000134	YP	05/11/1978	.090	DIGESTED FISH		100
WS78000098	YP	06/01/1978	.100	DIGESTED FISH		100
WS78000269	YP	09/11/1978	.075	ALONA SP	1	25
				CYCLOPS B THOMASI	2	50
				BOSMINA LONGIROSTRIS	1	25
WS78000270	YP		.111	BOSMINA LONGIROSTRIS	12	2
				CYCLOPS B THOMASI	12	2
				EURYTEMORA AFFINISWS78000	225	95
				CHYDORUS SPP	6	1
WS78000271	YP		.098	CYCLOPS B THOMASI	12	4
				BOSMINA LONGIROSTRIS	10	3
				CHYDORUS SPP	3	1
				EURYTEMORA AFFINIS	188	85
				ALONA SPP	5	1
				CAMPTOCERCUS RECTIROSTRIS	2	1
				UNIDENTIFIED		5
WS78000272	YP		.073	EURYTEMORA AFFINIS	55	89
				CHYDORUS SPP	2	1
				DAPHNIA GALEATA MENDOTAE	1	1
				CYCLOPS B THOMASI	5	8
				BOSMINA LONGIROSTRIS	1	1
WS78000273	YP		.047	ACROPERUS HARPOE	2	
				EURYTEMORA AFFINIS	237	98
				EURYCERCUS LAMELLATUS	1	
				BOSMINA LONGIROSTRIS	1	
				ALONA SPP	3	1
				POLYPHEMUS PEDICULUS	1	
				CHYDORUS SPP	3	1
WS78000274	YP		.056	CERIODAPHNIA SPP	2	
				CAMPTOCERUS RECTIROSTRIS	4	1
				EURYTEMORA AFFINIS	237	80
				ALONA SPP	3	
				CHYDORUS SPP	10	2
				BOSMINA LONGIROSTRIS	63	15
				CYCLOPS B THOMASI	8	2
WS78000275	YP		.061	CAMPTOCERCUS RECTIROSTRIS	1	
				ALONA SPP	5	1
				BOSMINA LONGIROSTRIS	20	5
				CHYDORUS SPP	5	1
				CYCLOPS B THOMASI	13	3
				EURYTEMORA AFFINIS	262	98
WS78000276	YP		.067	EURYTEMORA AFFINIS	87	95
				CYCLOPS B THOMASI	5	5
WS78000277	YP		.041	CHYDORUS SP	1	1
				EURYTEMORA AFFINIS	20	87
				CERODAPHNIA SP	1	2
				BOSMINA LONGIROSTRIS	4	10
WS78000280	YP	09/11/1978	.010	CHIRONOMIDAE (PUPAE)	8	30
				DIAMESINAE (LARVA)	1	5
				CHIRONOMIDAE (LARVAE)	1	5
				CHYDORUS SPP	3	1
				TANYPODINAE (LARVAE)	2	5
				ORTHOCLADIINAE (LARVAE)	1	5
				CAMPTOCERCUS RECTIROSTRIS	1	1
				EURYTEMORA AFFINIS	200	46
				CYCLOPS B THOMASI	3	1
				ALONA SPP	6	1
WS78000281	YP		.025	GAMMARUS SP	3	45
				CHIRONOMIDAE (PUPA)	1	5
				EURYTEMORA AFFINIS	25	50
WS78000282	YP		.048	TANYPODINAE (PUPA)	1	1
				ORTHOCLADIINAE (LARVAE)	2	1
				UNIDENTIFIED		8
				ORTHOCLADIINAE (PUPA)	1	1
				EURYTEMORA AFFINIS	350	84
				ALONA SPP	9	2
				TANYPODINAE (LARVA)	1	1
				BOSMINA SPP	2	1
				CHYDORUS SPP	6	1
WS78000283	YP		.043	EURYTEMORA AFFINIS	87	100

APPENDIX 3-23 (Cont'd)

CAT NUMBER	SPECIES	DATE MEYED	WT(GMS)	STOMACH SPECIES	NO OF ORGANISMS	PER CENT
WS78000284	YP		.046	UNIDENTIFIED		15
				CYCLOPS B THOMASI	12	6
				EURYTEMORA AFFINIS	162	74
				CERICDAPHNIA SPP	1	
				BOSMINA LONGIROSTRIS	7	5
WS78000285	YP		.022	CYCLOPS B THOMASI	1	1
				CAMPTOCERCUS RECTIROSTRIS	1	1
				ALONA SPP	1	1
				EURYTEMORA AFFINIS	58	77
				BOSMINA LONGIROSTRIS	8	28
WS78000286	YP		.018	BOSMINA LONGIROSTRIS	7	3
				CYCLOPS B THOMASI	17	5
				CERIODAPHNIA SP	1	
				ALONA SPP	2	
				EURYTEMORA AFFINIS	375	92
WS78000287	YP		.018	ALONA SPP	3	1
				CHYDORUS SPP	3	1
				TRICHOPTERA (ADULT)	1	28
				EUBOSMINA COREGONI	13	2
				EURYTEMORA AFFINIS	175	42
				CYCLOPS B THOMASI	7	2
				DAPHNIA G MENDOTAE	2	1
				POLYPHEMUS PEDICULUS	1	
				CAMPTOCERCUS RECTIROSTRIS	2	1
				BOSMINA SPP	137	38
WS78000288	YP		.022	ORTHOCLADIINAE (LARVAE)	2	18
				CHIRONOMIDAE (PUPAE)	3	18
				EURYTEMORA AFFINIS	25	80
WS78000289	YP		.033	UNIDENTIFIED		5
				HOLOPEDIUM GIBBERUM	1	
				CYCLOPS B THOMASI	12	3
				EURYTEMORA AFFINIS	375	90
				CAMPTOCERCUS RECTIROSTRIS	1	
				CHYDORUS SPP	1	
				BOSMINA LONGIROSTRIS	17	2
				ALONA SP	1	
				CERIODAPHNIA SPP	2	
WS78000290	YP					
WS78000291	YP		.039	ORTHOCLADIINAE (PUPA)	1	1
				ORTHOCLADIINAE (LARVA)	1	1
				UNIDENTIFIED		3
				ALONA SPP	2	
				CYCLOPS B THOMASI	15	3
				BOSMINA LONGIROSTRIS	62	16
				EURYTEMORA AFFINIS	225	75
				EUBOSMINA COREGONI	7	1
WS78000292	YP		.012	CYCLOPS B THOMASI	1	
				CHYDORUS SPP	8	1
				BOSMINA LONGIROSTRIS	6	1
				EURYTEMORA AFFINIS	313	98
WS78000293	YP		.082	EURYTEMORA AFFINIS	450	100
				CYCLOPS B THOMASI	2	
				BOSMINA LONGIROSTRIS	1	
WS78000294	YP	09/11/1978				
WS78000295	YP	09/11/1978	.101	CHIRONOMIDAE (PUPAE)	18	5
				GAMMARUS SP	8	95
WS78000297	YP	09/11/1978	.062	EURYTEMORA AFFINIS	87	98
				CERIODAPHNIA SP	1	
				CYCLOPS B THOMASI	2	1
				BOSMINA LONGIROSTRIS	2	1
WS78000298	YP		.018	UNIDENTIFIED		9
				ALONA SP	1	1
				CHIRONOMIDAE (LARVA)	1	1
				EURYTEMORA AFFINIS	63	89
WS78000265	YP	10/19/1978	.028	TANYPODINAE (LARVA)	1	2
				GAMMARUS SP	7	57
				ORTHOCLADIINAE (LARVAE)	3	8
				EURYTEMORA AFFINIS	6	3
				DIAMESINAE (LARVAE)	5	30
WS78000266	YP		.138	CHIRONOMINI	64	100
WS78000267	YP		.096	CHIRONOMINI (LARVAE)	7	100
WS78000268	YP		.022	ORTHOCLADIINAE (LARVAE)	9	100

APPENDIX 3-24

AGE AND FORK LENGTH DATA FOR WESLEYVILLE FISH SPECIES WESLEYVILLE GS 'A' - 1978

AGE AND FORK LENGTH DATA
FOR WESLEYVILLE FISH SPECIES
WESLEYVILLE GS 'A' - 1978

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==================================================
=   AGE+ FORK LENGTHS                            =
=   HISTOGRAM ANALYSIS PROGRAM                   =
=   SITE IS WESLEYVILLE                          =
=   FROM JAN 1 1978 TO DEC 31 1978               =
=   FISH SPECIES IS ALEWIFE                      =
=   NUMBER OF FISH ANALYSED IS    54             =
==================================================
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AGE	TOTAL	NUMBER	MEAN	SIG X SQ
0+	4264.000	52	82.000	353288.000

FOR SIZE RANGE 61 TO 70 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 71 TO 80 MM. TOTAL NUMBER OF FISH = 20
FOR SIZE RANGE 81 TO 90 MM. TOTAL NUMBER OF FISH = 19
FOR SIZE RANGE 91 TO 100 MM. TOTAL NUMBER OF FISH = 10

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
1+	80.000	1	80.000	6400.000

FOR SIZE RANGE 71 TO 80 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	157.000	1	157.000	24649.000

FOR SIZE RANGE 151 TO 160 MM. TOTAL NUMBER OF FISH = 1

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*****************************************
*  AGE+ FORK LENGTHS                    *
*  HISTOGRAM ANALYSIS PROGRAM           *
*  SITE IS WESLEYVILLE                  *
*  FROM JAN 1 1978 TO DEC 31 1978       *
*  FISH SPECIES IS BROWN BULLHEAD       *
*  NUMBER OF FISH ANALYSED IS    58     *
*****************************************
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AGE	TOTAL	NUMBER	MEAN	SIG X SQ
0+	259.000	4	64.750	16925.000

FOR SIZE RANGE 51 TO 60 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 61 TO 70 MM. TOTAL NUMBER OF FISH = 3

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
1+	62.000	1	62.000	3844.000

FOR SIZE RANGE 61 TO 70 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
2+	177.000	1	177.000	31329.000

FOR SIZE RANGE 171 TO 180 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
3+	480.000	2	240.000	115250.000

FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	3580.000	15	238.667	866834.000

FOR SIZE RANGE 201 TO 210 MM. TOTAL NUMBER OF FISH = 4
FOR SIZE RANGE 221 TO 230 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 281 TO 290 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 301 TO 310 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
5+	4612.000	19	242.737	1128608.000

FOR SIZE RANGE 201 TO 210 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 211 TO 220 MM. TOTAL NUMBER OF FISH = 5
FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 4
FOR SIZE RANGE 251 TO 260 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 4
FOR SIZE RANGE 271 TO 280 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 281 TO 290 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
6+	2757.000	11	250.636	695607.000

FOR SIZE RANGE 211 TO 220 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 221 TO 230 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 251 TO 260 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 271 TO 280 MM. TOTAL NUMBER OF FISH = 2

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
7+	1050.000	4	262.500	278558.000

FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 301 TO 310 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
8+	265.000	1	265.000	70225.000

FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 1

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==================================================
=   AGE+ FORK LENGTHS                            =
=   HISTOGRAM ANALYSIS PROGRAM                   =
=   SITE IS WESLEYVILLE                          =
=   FROM JAN 1 1978 TO DEC 31 1978               =
=   FISH SPECIES IS BROWN TROUT                  =
=   NUMBER OF FISH ANALYSED IS     1             =
==================================================
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AGE	TOTAL	NUMBER	MEAN	SIG X SQ
6+	432.000	1	432.000	186624.000

FOR SIZE RANGE 431 TO 440 MM. TOTAL NUMBER OF FISH = 1

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==================================================
=   AGE+ FORK LENGTHS                            =
=   HISTOGRAM ANALYSIS PROGRAM                   =
=   SITE IS WESLEYVILLE                          =
=   FROM JAN 1 1978 TO DEC 31 1978               =
=   FISH SPECIES IS PUMPKINSEED                  =
=   NUMBER OF FISH ANALYSED IS     2             =
==================================================
```

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
3+	136.000	1	136.000	18496.000

FOR SIZE RANGE 131 TO 140 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	170.000	1	170.000	28900.000

FOR SIZE RANGE 161 TO 170 MM. TOTAL NUMBER OF FISH = 1

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=====================================================
=   AGE+ FORK LENGTHS                               =
=   HISTOGRAM ANALYSIS PROGRAM                      =
=   SITE IS WESLEYVILLE                             =
=   FROM JAN 1 1978 TO DEC 31 1978                  =
=   FISH SPECIES IS SALMON, CHINOOK                 =
=   NUMBER OF FISH ANALYSED IS     1                =
=====================================================
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AGE	TOTAL	NUMBER	MEAN	SIG X SQ
3+	697.000	1	697.000	485809.000

FOR SIZE RANGE 691 TO 700 MM. TOTAL NUMBER OF FISH = 1

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=====================================================
=   AGE+ FORK LENGTHS                               =
=   HISTOGRAM ANALYSIS PROGRAM                      =
=   SITE IS WESLEYVILLE                             =
=   FROM JAN 1 1978 TO DEC 31 1978                  =
=   FISH SPECIES IS SALMON, COHO                    =
=   NUMBER OF FISH ANALYSED IS     2                =
=====================================================
```

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
1+	340.000	1	340.000	115600.000

FOR SIZE RANGE 331 TO 340 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	576.000	1	576.000	331776.000

FOR SIZE RANGE 571 TO 580 MM. TOTAL NUMBER OF FISH = 1

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==================================================
=  AGE+ FORK LENGTHS                             =
=  HISTOGRAM ANALYSIS PROGRAM                    =
=  SITE IS WESLEYVILLE                           =
=  FROM JAN 1 1978 TO DEC 31 1978                =
=  FISH SPECIES IS RAINBOW TROUT                 =
=  NUMBER OF FISH ANALYSED IS    21              =
==================================================
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AGE	TOTAL	NUMBER	MEAN	SIG X SQ
0+	355.000	4	88.750	32399.000

FOR SIZE RANGE 61 TO 70 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 91 TO 100 MM. TOTAL NUMBER OF FISH = 3

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
1+	662.000	5	132.400	98730.000

FOR SIZE RANGE 91 TO 100 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 101 TO 110 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 111 TO 120 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 221 TO 230 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
2+	942.000	5	188.400	222134.000

FOR SIZE RANGE 111 TO 120 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 121 TO 130 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 131 TO 140 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 181 TO 190 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 371 TO 380 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
3+	2363.000	4	590.750	1410285.000

FOR SIZE RANGE 491 TO 500 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 591 TO 600 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 621 TO 630 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 651 TO 660 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	2044.000	3	681.333	1423226.000

FOR SIZE RANGE 601 TO 610 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 611 TO 620 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 821 TO 830 MM. TOTAL NUMBER OF FISH = 1

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*************************************************
*  AGE+ FORK LENGTHS                            *
*  HISTOGRAM ANALYSIS PROGRAM                   *
*  SITE IS WESLEYVILLE                          *
*  FROM JAN 1 1978 TO DEC 31 1978               *
*  FISH SPECIES IS ROUND WHITEFISH              *
*  NUMBER OF FISH ANALYSED IS    41             *
*************************************************
```

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
2+	476.000	2	238.000	113306.000

FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	1716.000	4	429.000	736578.000

FOR SIZE RANGE 411 TO 420 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 421 TO 430 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 441 TO 450 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
5+	8241.000	19	433.737	3584765.000

FOR SIZE RANGE 361 TO 370 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 381 TO 390 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 411 TO 420 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 421 TO 430 MM. TOTAL NUMBER OF FISH = 5
FOR SIZE RANGE 431 TO 440 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 441 TO 450 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 451 TO 460 MM. TOTAL NUMBER OF FISH = 4
FOR SIZE RANGE 461 TO 470 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
6+	6820.000	15	454.667	3110050.000

FOR SIZE RANGE 401 TO 410 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 411 TO 420 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 421 TO 430 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 431 TO 440 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 441 TO 450 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 451 TO 460 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 461 TO 470 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 471 TO 480 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 481 TO 490 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 491 TO 500 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
7+	449.000	1	449.000	201601.000

FOR SIZE RANGE 441 TO 450 MM. TOTAL NUMBER OF FISH = 1

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=================================================
=   AGE+ FORK LENGTHS                           =
=   HISTOGRAM ANALYSIS PROGRAM                  =
=   SITE IS WESLEYVILLE                         =
=   FROM JAN 1 1978 TO DEC 31 1978              =
=   FISH SPECIES IS SMELT                       =
=   NUMBER OF FISH ANALYSED IS     9            =
=================================================
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AGE	TOTAL	NUMBER	MEAN	SIG X SQ
0+	154.000	2	77.000	12506.000

FOR SIZE RANGE 51 TO 60 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 91 TO 100 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
1+	457.000	5	91.400	41935.000

FOR SIZE RANGE 81 TO 90 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 91 TO 100 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 101 TO 110 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
2+	335.000	2	167.500	56113.000

FOR SIZE RANGE 161 TO 170 MM. TOTAL NUMBER OF FISH = 2


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=================================================
=   AGE+ FORK LENGTHS                           =
=   HISTOGRAM ANALYSIS PROGRAM                  =
=   SITE IS WESLEYVILLE                         =
=   FROM JAN 1 1978 TO DEC 31 1978              =
=   FISH SPECIES IS SHINER, EMERALD             =
=   NUMBER OF FISH ANALYSED IS     3            =
=================================================
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AGE	TOTAL	NUMBER	MEAN	SIG X SQ
0+	149.000	3	49.667	7781.000

FOR SIZE RANGE 31 TO 40 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 51 TO 60 MM. TOTAL NUMBER OF FISH = 2

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==================================================
=   AGE+ FORK LENGTHS                            =
=   HISTOGRAM ANALYSIS PROGRAM                   =
=   SITE IS WESLEYVILLE                          =
=   FROM JAN 1 1978 TO DEC 31 1978               =
=   FISH SPECIES IS WHITE PERCH                  =
=   NUMBER OF FISH ANALYSED IS     7             =
==================================================
```

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
1+	110.000	1	110.000	12100.000

FOR SIZE RANGE 101 TO 110 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
2+	147.000	1	147.000	21609.000

FOR SIZE RANGE 141 TO 150 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	174.000	1	174.000	30276.000

FOR SIZE RANGE 171 TO 180 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
5+	201.000	1	201.000	40401.000

FOR SIZE RANGE 201 TO 210 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
6+	226.000	1	226.000	51076.000

FOR SIZE RANGE 221 TO 230 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
7+	523.000	2	261.500	138169.000

FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 281 TO 290 MM. TOTAL NUMBER OF FISH = 1

APPENDIX 3-24 (Cont'd)

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AGE+ FORK LENGTHS
HISTOGRAM ANALYSIS PROGRAM
SITE IS WESLEYVILLE
FROM JAN 1 1978 TO DEC 31 1978
FISH SPECIES IS WHITE SUCKER
NUMBER OF FISH ANALYSED IS    80
```

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
2+	141.000	1	141.000	19881.000

FOR SIZE RANGE 141 TO 150 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
3+	2449.000	11	222.636	554345.000

FOR SIZE RANGE 151 TO 160 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 181 TO 190 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 211 TO 220 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 221 TO 230 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 251 TO 260 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
4+	4806.000	18	267.000	1318070.000

FOR SIZE RANGE 171 TO 180 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 221 TO 230 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 251 TO 260 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 271 TO 280 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 301 TO 310 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 331 TO 340 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 341 TO 350 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 351 TO 360 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
5+	2628.000	9	292.000	787348.000

FOR SIZE RANGE 201 TO 210 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 241 TO 250 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 251 TO 260 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 261 TO 270 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 291 TO 300 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 321 TO 330 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 341 TO 350 MM. TOTAL NUMBER OF FISH = 3

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
6+	3972.000	11	361.091	1441790.000

FOR SIZE RANGE 311 TO 320 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 331 TO 340 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 341 TO 350 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 351 TO 360 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 361 TO 370 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 371 TO 380 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 381 TO 390 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 411 TO 420 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
7+	5645.000	15	376.333	2130481.000

FOR SIZE RANGE 331 TO 340 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 351 TO 360 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 361 TO 370 MM. TOTAL NUMBER OF FISH = 2
FOR SIZE RANGE 371 TO 380 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 381 TO 390 MM. TOTAL NUMBER OF FISH = 4
FOR SIZE RANGE 391 TO 400 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 401 TO 410 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 411 TO 420 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
8+	2449.000	6	408.167	1015835.000

FOR SIZE RANGE 311 TO 320 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 371 TO 380 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 381 TO 390 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 441 TO 450 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 451 TO 460 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 461 TO 470 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
9+	1288.000	3	429.333	558190.000

FOR SIZE RANGE 381 TO 390 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 411 TO 420 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 481 TO 490 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
10+	453.000	1	453.000	205209.000

FOR SIZE RANGE 451 TO 460 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
11+	874.000	2	437.000	383396.000

FOR SIZE RANGE 401 TO 410 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 461 TO 470 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
12+	841.000	2	420.500	353753.000

FOR SIZE RANGE 411 TO 420 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 421 TO 430 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
14+	437.000	1	437.000	190969.000

FOR SIZE RANGE 431 TO 440 MM. TOTAL NUMBER OF FISH = 1

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AGE+ FORK LENGTHS
HISTOGRAM ANALYSIS PROGRAM
SITE IS WESLEYVILLE
FROM JAN 1 1978 TO DEC 31 1978
FISH SPECIES IS YELLOW PERCH
NUMBER OF FISH ANALYSED IS    41
```

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
0+	1872.000	30	62.400	117416.000

FOR SIZE RANGE 51 TO 60 MM. TOTAL NUMBER OF FISH = 10
FOR SIZE RANGE 61 TO 70 MM. TOTAL NUMBER OF FISH = 18
FOR SIZE RANGE 71 TO 80 MM. TOTAL NUMBER OF FISH = 2

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
1+	581.000	5	116.200	70649.000

FOR SIZE RANGE 61 TO 70 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 121 TO 130 MM. TOTAL NUMBER OF FISH = 3
FOR SIZE RANGE 131 TO 140 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
2+	377.000	3	125.667	47539.000

FOR SIZE RANGE 111 TO 120 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 121 TO 130 MM. TOTAL NUMBER OF FISH = 1
FOR SIZE RANGE 131 TO 140 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
3+	161.000	1	161.000	25921.000

FOR SIZE RANGE 161 TO 170 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
5+	234.000	1	234.000	54756.000

FOR SIZE RANGE 231 TO 240 MM. TOTAL NUMBER OF FISH = 1

AGE	TOTAL	NUMBER	MEAN	SIG X SQ
6+	290.000	1	290.000	84100.000

FOR SIZE RANGE 281 TO 290 MM. TOTAL NUMBER OF FISH = 1

APPENDIX 3-25

SPINE AND SCALE BACK CALCULATIONS
FOR BROWN BULLHEAD, ROUND WHITEFISH
AND WHITE SUCKER

WESLEYVILLE GS A - 1978

FISH BACK CALCULATION SUMMARY PROGRAM

BACK CALCULATIONS AT WESLEYVILLE
FROM JAN 01 1978 TO DEC 31 1978
FISH SPECIES IS BROWN BULLHEAD

STRAIGHT SCALE SUMMARY TO BE PRODUCED
LINEAR REGRESSION SUMMARY TO BE PRODUCED-LINEAR SLOPE IS 145.66
LOG LOG SUMMARY TO BE PRODUCED-LOG SLOPE IS .92740
94 FISH QUALIFY

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 1

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.170	1	.170	.029
2	.590	1	.590	.348
3	1.770	2	.885	1.570
4	15.320	15	1.021	15.642
5	22.410	19	1.179	26.395
6	12.260	11	1.115	14.499
7	5.440	4	1.360	7.510
8	1.270	1	1.270	1.613

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 2

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.440	1	.440	.194
2	1.500	2	.750	1.125
3	13.790	15	.919	12.812
4	20.430	19	1.075	22.311
5	11.370	11	1.034	12.486
6	5.090	4	1.272	6.553
7	1.220	1	1.220	1.488

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 3

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	1.240	2	.620	.771
2	11.340	15	.756	8.707
3	17.740	19	.934	16.853
4	10.440	11	.949	10.526
5	4.720	4	1.180	5.668
6	1.180	1	1.180	1.392

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 4

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	8.440	15	.563	5.816
2	14.720	19	.775	11.517
3	8.990	11	.817	7.787
4	4.330	4	1.082	4.762
5	1.120	1	1.120	1.254

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 5

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	10.810	19	.569	6.328
2	6.850	11	.623	4.589
3	3.740	4	.935	3.507
4	1.030	1	1.030	1.061

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 6

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	5.280	11	.480	2.667
2	2.890	4	.722	2.101
3	.840	1	.840	.706

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 7

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	2.180	4	.545	1.196
2	.770	1	.770	.593

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 8

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.530	1	.530	.281

FISH BACK CALCULATION SUMMARY PROGRAM

BACK CALCULATIONS AT WESLEYVILLE
FROM JAN 01 1978 TO DEC 31 1978
FISH SPECIES IS ROUND WHITEFISH

STRAIGHT SCALE SUMMARY TO BE PRODUCED
LINEAR REGRESSION SUMMARY TO BE PRODUCED-LINEAR SLOPE IS 50.999
LOG LOG SUMMARY TO BE PRODUCED-LOG SLOPE IS .56130
41 FISH QUALIFY

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 1

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
2	3.638	2	1.819	6.620
4	16.170	4	4.042	65.481
5	75.330	19	3.965	303.155
6	65.298	15	4.353	285.113
7	4.380	1	4.380	19.184

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 2

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	1.900	2	.950	1.805
3	13.210	4	3.302	43.753
4	66.710	19	3.511	238.727
5	59.490	15	3.966	237.189
6	4.170	1	4.170	17.389

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 3

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
2	9.130	4	2.282	21.064
3	56.460	19	2.972	171.523
4	52.570	15	3.505	185.518
5	4.030	1	4.030	16.241

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 4

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	2.950	4	.737	2.179
2	39.470	19	2.077	84.270
3	43.690	15	2.913	128.202
4	3.550	1	3.550	12.602

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 5

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	16.290	19	.857	15.372
2	29.848	15	1.989	60.485
3	2.930	1	2.930	8.585

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 6

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	13.130	15	.875	11.907
2	2.000	1	2.000	4.000

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 7

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.760	1	.760	.578

FISH SCALE CALCULATION SUMMARY PROGRAM

BACK CALCULATIONS AT [illegible]
FROM JAN 01 1978 TO DEC 31 1978
FISH SPECIES IS WHITE SUCKER

STRAIGHT SCALE SUMMARY TO BE PRODUCED
LINEAR REGRESSION SUMMARY TO BE PRODUCED-LINEAR SLOPE IS 23.249
LOG LOG SUMMARY TO BE PRODUCED-LOG SLOPE IS .30410
80 FISH QUALIFY

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 1

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
2	.280	1	.280	.000
3	4.095	11	.445	2.403
4	11.880	18	.660	8.612
5	11.829	9	1.313	46.644
6	10.410	11	.946	11.122
7	15.440	15	1.029	17.839
8	6.220	6	1.037	7.876
9	3.560	3	1.187	6.410
10	2.010	1	2.010	4.040
11	3.050	2	1.680	5.888
12	2.290	2	1.145	2.723
14	1.080	1	1.080	3.534

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 2

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.870	1	.870	.000
2	2.834	11	.257	.877
3	8.388	18	.466	6.481
4	9.990	9	1.110	32.009
5	9.570	11	.870	9.301
6	14.629	15	.975	15.366
7	5.888	6	.967	6.128
8	3.488	3	1.133	4.818
9	1.968	1	1.960	3.842
10	3.120	2	1.560	5.161
11	2.240	2	1.120	2.666
13	1.860	1	1.860	3.460

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 3

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	1.000	11	.091	.105
2	6.790	18	.264	1.694
3	7.188	9	.799	16.651
4	8.143	11	.740	6.981
5	13.810	15	.867	12.475
6	5.270	6	.878	5.814
7	3.288	3	1.067	3.336
8	1.850	1	1.850	3.422
9	3.030	2	1.515	4.887
10	2.190	2	1.095	2.696
12	1.830	1	1.830	3.349

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 4

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	1.300	10	.000	.150
2	6.340	9	.402	6.876
3	9.810	11	.328	3.739
4	10.890	15	.723	8.983
5	4.810	6	.802	4.236
6	2.830	3	.943	2.700
7	1.720	1	1.720	2.988
8	2.980	2	1.440	4.259
9	2.120	2	1.060	2.330
11	1.790	1	1.790	3.204

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 5

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	2.129	9	.236	1.886
2	3.310	11	.301	1.386
3	7.590	15	.506	4.602
4	4.880	6	.600	3.067
5	2.270	3	.757	1.732
6	1.360	1	1.360	2.436
7	2.750	2	1.375	3.902
8	2.040	2	1.020	2.193
10	1.740	1	1.740	3.028

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 6

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	1.040	11	.095	.111
2	4.470	15	.298	1.375
3	2.760	6	.460	1.469
4	1.630	3	.380	.961
5	1.280	1	1.280	1.640
6	2.620	2	1.310	3.437
7	1.950	2	.975	1.905
9	1.710	1	1.710	2.924

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 7

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	1.470	15	.098	.193
2	1.580	6	.280	.488
3	1.250	3	.417	.944
4	.830	1	.830	.689
5	2.380	2	1.190	2.898
6	1.080	2	.985	1.822
8	1.670	1	1.670	2.789

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 8

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.480	6	.080	.039
2	.890	3	.297	.360
3	1.740	1	1.740	.348
4	1.750	2	.875	1.783
5	1.730	2	.865	1.580
7	1.590	1	1.590	2.528

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 9

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.360	3	.120	.044
2	.168	1	.168	.026
3	1.320	2	.660	1.102
4	1.390	2	.695	1.020
6	1.500	1	1.500	2.250

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 10

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.090	1	.090	.000
2	.780	2	.390	.392
3	1.130	2	.565	.644
9	1.370	1	1.370	1.877

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 11

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.390	2	.195	.007
2	.650	2	.325	.212
4	1.150	1	1.150	1.322

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 12

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.210	2	.105	.022
3	.750	1	.750	.563

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 13

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
2	.340	1	.340	.116

COMPLETE FISH SCALE RADII AT PREVIOUS AGES BACK 14

AGE	TOTAL	NUMBER	MEAN	SIGMA X SQUARED
1	.880	1	.880	.000

APPENDIX 3-2b

CATCH RECORDS FOR WESLEYVILLE WHITEFISH STUDY - 1978

Transect	K						M						O						Q						S						Y						Total	Percent of Catch
	November				Dec		November				Dec		November				Dec		November				Dec		November				Dec		November				Dec			
Date / Species	15	20	21	22	29	7	15	20	21	22	29	7	15	20	21	22	29	7	15	20	21	22	24	7	15	20	21	22	29	7	15	20	21	22	29	7		
																					•						•						•					
White Sucker	10	7	3	1			6	18	6	5			3	14	12	7			10	1	5				11	1	5				2	3	3				133	46.7
Bullt	4	2	0	3			2	13	1	0			0	10	1	2			1	1	0				1	3	0				0	1	2				47	16.1
Round Whitefish	1	2	5	1			0	5	0	4			0	3	1	4			5	2	2				1	2	0				2	0	0				40	14.0
Rainbow Trout	1	1	1	0			0	2	0	1			0	1	2	1			0	1	2				0	0	2				0	2	0				17	5.9
Slimy Sculpin	0	2	0	0			1	2	0	0			0	4	2	0			1	0	0				0	0	0				0	0	0				12	4.2
Alewife	4	0	0	0			2	1	0	0			0	0	0	0			1	0	0				2	0	0				0	0	0				10	3.5
Brown Trout	1	0	1	0			3	0	0	0			0	0	1	0			0	0	0				0	0	0				0	1	0				7	2.4
Chinook Salmon	0	0	0	0			0	0	0	0			0	1	0	0			0	0	0				0	0	1				0	2	0				4	1.4
Coho Salmon	1	0	0	0			1	0	0	0			1	0	0	0			0	0	0				0	0	0				1	0	0				4	1.4
Lake Chub	0	0	0	0			0	2	0	0			0	0	0	0			0	0	0				1	0	0				0	1	0				3	1.1
White Perch	0	0	0	0			0	0	1	0			0	0	0	0			0	0	1				0	0	0				0	0	0				3	1.1
Gizzard Shad	0	1	0	0			0	0	0	0			0	0	0	0			1	0	0				0	0	0				0	0	0				2	.7
Lake Trout	1	0	0	0			1	0	0	0			0	0	0	0			0	0	0				0	0	0				0	0	0				2	.7
Yellow Perch	0	0	0	0			0	0	0	0			2	0	0	0			0	0	0				0	0	0				0	0	0				2	.7
Northern Pike	0	0	0	0			0	0	1	0			0	0	0	0			0	0	0				0	0	0				0	0	0				1	.4
Rock Bass	0	0	0	0			0	1	0	0			0	0	0	0			0	0	0				0	0	0				0	0	0				1	.4
Daily Total	23	15	10	5			16	44	9	10			6	33	19	14			18	5	10				16	7	7				5	10	5				288	
Transect Total	53						79						72						34						30						20							
CPE	13.3						19.78						18.0						11.3						10.0						6.7							
Percent of Catch	16.8						24.9						22.7						14.3						12.7						8.5							

• 96-Hour Set

APPENDIX 3-27

A COMPARISON OF SHALLOW (5-10 m) AND DEEP (15-20 m) WHITEFISH CATCHES
WESLEYVILLE GS A - 1978

	5 - 10 m depth			15 - 20 m depth			
Location	Length of GN(ft)	* RWF	CUE	Length of GN(ft)	* RWF	CUE	% Inshore
K	1600	5	.23	1600	4	.19	44
M	1600	5	.23	1600	4	.19	44
O	1600	4	.19	1600	4	.19	50
Q	1200	3	.19	1200	6	.38	33
S	1200	1	.06	1200	2	.13	33
Y	1200	1	.06	1200	1	.06	50
TOTAL	7400	19	.19	7400	21	.21	

Length of GN = Total length of gillnet in feet
*RWF = Total number of round whitefish captured
CUE = Catch of round whitefish per 75-foot section of gillnet (catch per unit effort)

APPENDIX 3-28

LENGTHS, WEIGHTS AND FECUNDITIES
OF ROUND WHITEFISH
WESLEYVILLE GS A - 1979

Age	Sex	Fork Length (mm)	Weight (gms)	Fecundity	Eggs/ gm of fish
2+	M	235	113	-	-
2+	M	241	132	-	-
4+	F	430	805	5 547	6.9
4+	F	418	790	14 017	17.7
4+	F	445	720	6 467	8.9
4+	F	423	730	*	
5+	M	420	947	-	-
5+	M	450	1132	-	-
5+	M	425	886	-	-
5+	M	425	825	-	-
5+	M	454	1142	-	-
5+	M	452	790**	-	-
5+	F	422	790	16 362	20.7
5+	F	442	1140	13 613	11.9
5+	F	444	1115	22 143	11.9
5+	F	459	1250	18 770	15.0
5+	F	470	1170	17 077	14.6
5+	F	440	1074	18 335	17.1
5+	F	452	1221	20 301	16.6
5+	F	422	857	10 785	12.6
5+	F	436	851	4 231	4.9
5+	F	435	1139	16 550	14.5
6+	M	436	1034	-	-
6+	M	425	870**	-	-
6+	M	454	960**	-	-
6+	M	461	980**	-	-
6+	M	468	920**	-	-
6+	M	445	1050	-	-
6+	F	476	1629	18 323	11.2
6+	F	484	1347	15 381	11.4
6+	F	485	1504	23 790	15.8
6+	F	495	1590	19 421	12.2
6+	F	456	1200	7 584	6.32

M - Male F - Female * - Partially spawned out
** - Ripe males

POOR

QUALITY

ORIGINAL